

TWENTY-SECOND CATALOGUE

OF THE

Arkansas Industrial University

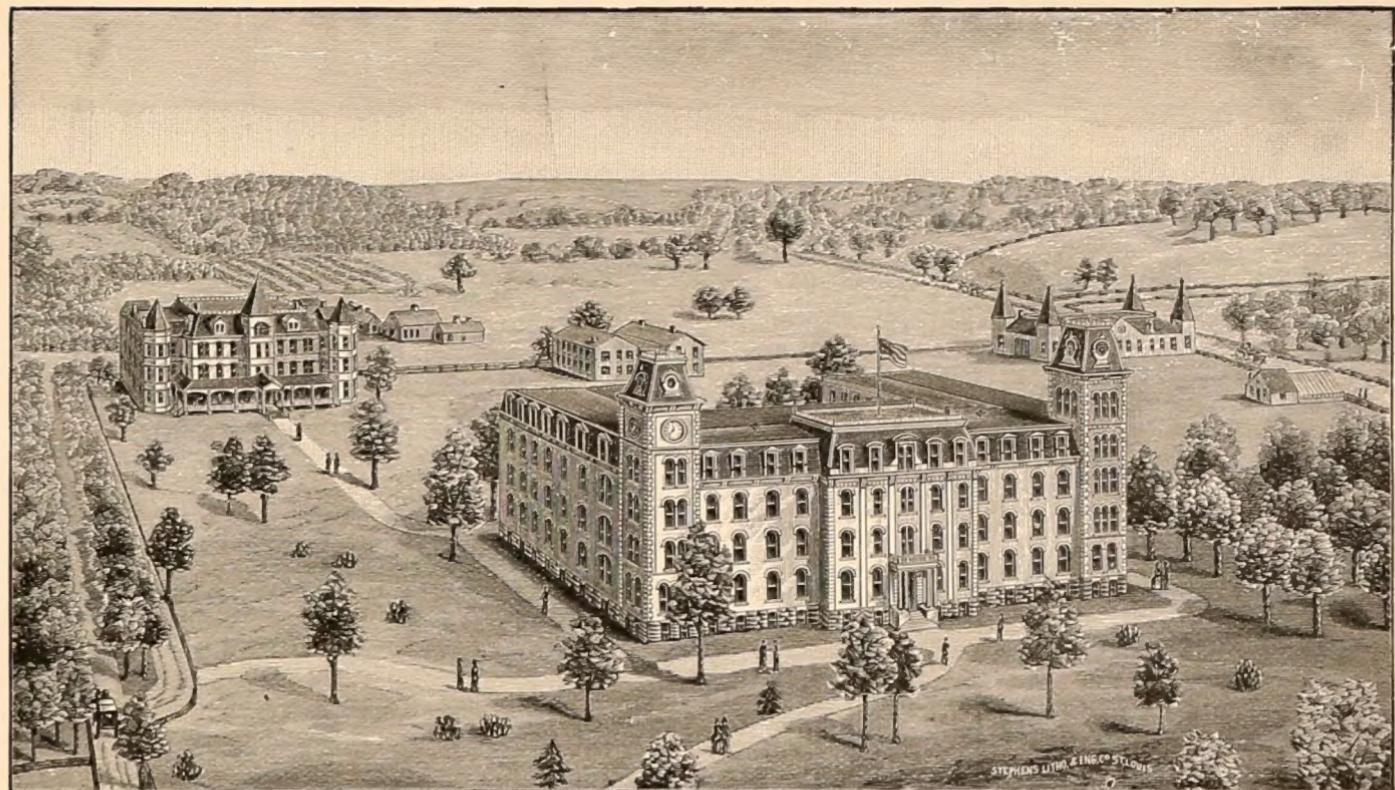
FAYETTEVILLE, WASHINGTON COUNTY, ARK.

MEDICAL AND LAW SCHOOLS, AT LITTLE ROCK.
BRANCH NORMAL COLLEGE, AT PINE BLUFF.

1894.

ANNOUNCEMENTS FOR 1895

"DIPLOMA PRESS,"
ARKANSAS DEMOCRAT COMPANY
LITTLE ROCK,
1894.



ARKANSAS INDUSTRIAL UNIVERSITY, FAYETTEVILLE.

STEPHENS LITH. & ENGR. ST. LOUIS.

CALENDAR FOR 1894-95.

1894.

- SEPTEMBER 4—Session begins at the Branch Normal College at Pine Bluff.
OCTOBER 3—Preliminary course begins in Medical School at Little Rock.
OCTOBER 2—Fall term begins in Law School at Little Rock.
NOVEMBER 1—Session begins in the Medical School at Little Rock.

1895.

- JANUARY 31—Fall term closes in Law School at Little Rock.
FEBRUARY 1—Spring term begins in Law School at Little Rock.
MARCH 5—First term begins in all departments at Fayetteville.
MARCH 5-8—Examinations for admission in all departments at Fayetteville.
APRIL 8—Session of the Medical School at Little Rock ends.
MAY 30—Decoration Day, a holiday.
MAY 31—First term ends in all departments at Fayetteville.
JUNE 1—Spring term closes in Law School.
JUNE 3—Second term begins in all departments at Fayetteville.
JUNE 5—Session ends at Branch Normal College at Pine Bluff.
JULY 4—A holiday.
AUGUST 30—Second term ends in all departments at Fayetteville.
SEPTEMBER 2—Third term begins in all departments at Fayetteville.
NOVEMBER 28—Thanksgiving, a holiday.
DECEMBER 1—Baccalaureate sermon.
DECEMBER 5—Commencement in all departments at Fayetteville.

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TWENTY-SECOND CATALOGUE

AT LITTLE ROCK.

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GEORGE B. IRBY, B. A.,
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C. L. NEWMAN, B. S.,
Assistant Agriculturist at Camden.

THE UNIVERSITY AND THE STATE.

The University is at the head of the public educational system of the State of Arkansas. It seeks to foster the higher educational interests of the State, broadly and generously interpreted, and to make provision for the demands of advanced scholarship in as many lines as its means will permit. It is the aim of its Faculty and Board of Trustees, from year to year, to bring it into still closer articulation with the public schools of the State, and in connection with them to afford to all the youth of either sex ample facilities for liberal education in literature, science, and the industrial arts, and for the professional studies.

Through the aid received from the United States and from the State of Arkansas, the University is enabled to offer free tuition, except in the studies of law and medicine, and thus to open wide her doors to all seekers of learning.

The institution was established in accordance with an act of Congress making a grant of land for its benefit, and in accordance with an act of the General Assembly of this State carrying out the object of said grant.

LOCATION.

The University, except its Medical and Law Schools and Branch Normal College, is located at Fayetteville, Washington County, in northwestern Arkansas. It is therefore situated in the heart of the Ozark Mountains, and is more than sixteen hundred feet above the sea level. The location is thought to be unsurpassed by any other locality in the State in salubrity of climate, beauty of surrounding

scenery, fertility of soil, variety and perfection of agricultural and horticultural productions, and in the morality and intelligence of its people.

Students may reach Fayetteville from both the north and the south by the Texas branch of the St. Louis and San Francisco Railroad, now running two trains daily each way, connecting on the south with the Little Rock and Fort Smith Railroad at Van Buren.

BUILDINGS.

The main building of the University (see frontispiece) is a magnificent structure of brick with stone trimmings and basement. It is 4 stories in height. It occupies three sides of a quadrangle and has a frontage of 214 feet and a depth of 124 feet.

In the north wing are situated the Armory in the basement, the Chapel on the first floor, the Library and Reading Room on the second, the Engineering Drawing Room on the third floor, and the Examination Hall on the fourth floor. In the south wing the Engineering Laboratory occupies the basement, the hall for boys of the Preparatory Department the first floor, the hall for girls the second floor, lecture room, class rooms and offices of the Engineering Department the third floor, and the Natural History Museum the fourth floor.

The main front of the building contains in the basement the rooms used for electrical engineering, the testing room, the store room, the photometry room, and the storage battery room; the offices of the President and Commandant, and recitation rooms for mathematics, music, and for the Preparatory Department on the first floor; the second floor is occupied by class rooms for elocution, English, Latin, Greek, modern languages, mathematics, history, vocal music, and the offices of the Secretary of the Board of Trustees and the Principal of the Preparatory Department;

on the third floor are situated the class rooms and laboratories of Biology and Geology; the literary societies occupy the fourth floor.

This building covers an area of 26,108 square feet, and contains seventy rooms, together with broad corridors and ample stairways. As a safeguard against fire and to insure uniform temperature, the building is heated throughout by steam.

THE NEW LABORATORY BUILDING.

The new laboratory for Chemistry and Physics, erected during the summer of 1893 is a substantial two-story brick building 50x60 feet. On the first floor are the lecture rooms of the two departments, the physical laboratory and storeroom, and also the private laboratory of the professor in charge. On the second floor are the chemical laboratories, including a laboratory of general chemistry, a laboratory for qualitative analysis, and a laboratory devoted to quantitative analysis, also the storeroom for chemical supplies, the weighing room, and the hallway, which is also used as a coat room. A dumb waiter connects the first and second stories.

The building is supplied with gas and water and with the best modern appliances for technical work. It will accommodate about a hundred students.

THE OLD DORMITORY.

The old dormitory is a two-story frame building. It contains a dining hall, kitchens, and storerooms, and will accommodate about fifty students.

THE NEW DORMITORY.

The new dormitory is a substantial brick building, 3 stories high, containing over forty rooms. In finish and appearance it is a model structure. The rooms are large, airy, well ventilated and lighted, and open into broad corridors extending lengthwise through the building. The entrances

are five in number, three in front, which open upon a broad veranda, and two in the rear. As to location, every precaution has been taken to insure good health to its occupants, and a suite of rooms is fitted up for hospital purposes.

THE NEW BATH HOUSE.

In the fall of 1893 a new bath house was erected for the benefit of the students of the dormitories. It is 16x18 feet in size, contains three tubs, and is otherwise completely equipped.

AGRICULTURAL BUILDINGS.

The building of the Agricultural Experiment Station is of brick, one story in height. It contains the office of the Director, the laboratories of the Chemist, Horticulturist, Veterinarian, and Entomologist, the museum, and several commodious storerooms. Connected with the Department of Agriculture are a large barn, stock shed, dairy house, fruit house, and other necessary outbuildings.

THE SHOP BUILDING.

The Shop Building was erected in the spring of 1889. It is of corrugated iron, 170 feet long, 40 feet wide, and one story high, with ample light and ventilation. The Wood Room is 40x60 feet in size, the Metal Room 40x40, the Forge Room 40x25, and the Foundry 40x45 feet. During the fall of 1892 an addition to the shops, 20x40 feet, was built almost entirely by the students.

LIBRARY.

The Library occupies the north wing of the main building, second floor. It now contains 7,000 volumes, with numerous pamphlets, maps, charts, etc. Shelves are provided for 14,000 volumes, with room for expansion.

The alcoves are separated from the library hall by an iron railing; and only advanced students are permitted to



LIBRARY.

enter and to have direct access to the shelves. The general reference works, however, are outside the railing.

The Dewey decimal system of classification and the Cutter book-numbers are used, thereby simplifying to a great degree the circulation of books and the general care of the Library.

The Reading Room contains, on Athenaeum newspaper files, nearly all the papers published in Arkansas, and also the St. Louis and Memphis dailies.

The leading high-class periodicals (including magazines, reviews and various technical monthlies) are regularly taken, and are bound as they accumulate. This vast fund of current literature is rendered more useful and accessible by "Poole's Complete Index" to periodic literature from 1802 to the present time.

Among the works of general reference in the Library are all the best encyclopedias and dictionaries.

The card catalogue in preparation will facilitate reference and will greatly increase the usefulness and popularity of the Library.

The privileges of both Library and Reading Room are free to all students.

THE ARMORY.

The Armory is a large, well lighted room, 60x80 feet, situated in the basement of the north wing of the main building. It is substantially fitted up with all necessary conveniences, such as arm racks, compartments for equipments,



ARMORY.

uniforms, and band instruments. In this room drills are held during inclement weather, and it is also used as a room for band practice.

The equipment consists of 243 Springfield Cadet rifles, of the same model as those used at the United States Military Academy at West Point; 243 sets of infantry equipments, each set consisting of one waist belt and plate, a cartridge box and a bayonet scabbard; one set of band instruments, 18 pieces, same quality as used in the regular

army; one 12-pounder smooth bore cannon; also swords, flags, colors, etc. The arm and rifle equipments are furnished by the United States, and the band instruments by the State. A liberal supply of ammunition is furnished by the general government for target practice. The equipment is sufficient for a battalion of 275 cadets.

MUSEUMS.

The University has two Museums, which are of great value in furnishing materials for the illustration of scientific studies and of the industrial arts.

MUSEUM OF NATURAL HISTORY.

The Museum occupies the fourth floor of the south wing of the main building. Adjoining it are two rooms, one being used for the storage of alcoholic specimens, the other for taxidermy. The collections in the Museum at present comprise the following:

200 birds and mammals, 80 species

200 reptiles and amphibians, 40 species.

500 fishes, 150 species.

1,000 insects and other invertebrates, 200 species.

18 skeletons.

3,500 plants, 1,500 species.

1,500 fossils, 230 species.

400 minerals, 200 species.

150 specimens of rocks representing about 100 varieties of building and ornamental stones.

A few archaeological specimens, also a few anatomical and physiological preparations.

Except fishes, invertebrates, minerals, and fossils, most of our collections are from Arkansas.

Professor Meek has deposited in the Museum his private collection of about 250 species, consisting mostly of the lower vertebrates.

Our aim is to make the Museum of more practical and educational value, and to this end we would invite the co-operation of all the people of the State in completing our collections in one or more directions indicated below:

1. An exhibition of valuable rock materials used in construction, architecture, and the arts.
2. An exhibition of native ores, with specimens illustrating the metallurgy of useful metals.
3. Collections of plants and animals of the country, including fossil species.
4. Historical and archæological collections.

The Museum will gratefully acknowledge donations of various objects, and the donors may be sure that anything of value sent to it will be carefully preserved and duly credited to the donor. Collections in the hands of private parties are likely to be soon scattered or spoiled through improper care and handling. The Museum is now prepared to receive collections on deposit, and to preserve and display them under the owner's name until called for. In this way owners of interesting collections are usually much more certain of having their collections permanently preserved, and the collections will be seen by more people and become more useful.

Through the kindness of the 'Frisco and Eureka Springs Railways the curator has been much aided in making collections in northwestern Arkansas, these roads having furnished him with free transportation over their lines in Arkansas.

While our Museum is most important on account of its educational value, at the same time it serves an important purpose in representing the resources of this State. Any donations or aid in making collections for the Museum will be highly appreciated.



MUSEUM.

INDUSTRIAL MUSEUM.

Among the facilities for instruction contained in the equipment of the University, may be mentioned:

A Dean steam pump with air chamber, water and steam cylinders, and valve chambers sectioned, so that a student may see the working parts.

A Cameron steam pump with the steam cylinder sectioned.

A Blake steam pump in full working order.

Two small horizontal, and one vertical steam engine made by the students in the shop.

A fire hydrant in working order.

A set of three successive portions of plate from a boiler showing effect of scale in producing overheating and bagging.

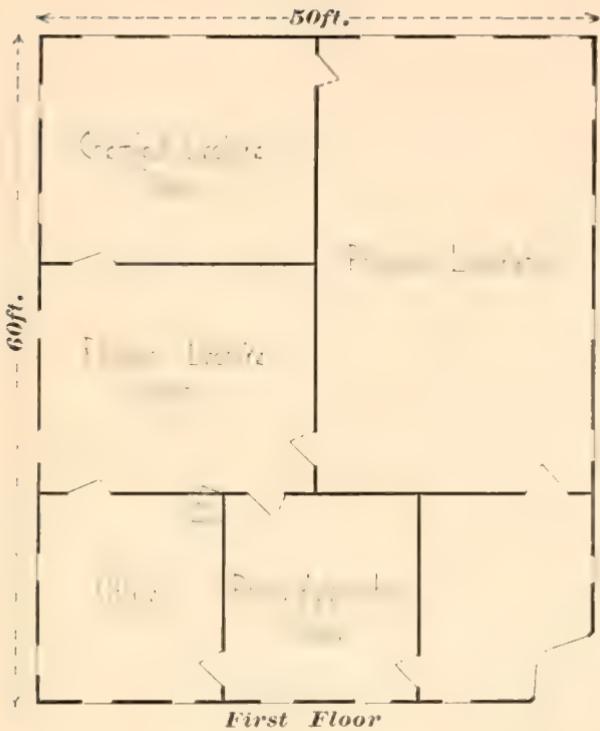
Samples of articles of manufacture form a large part of the collection, and are found to be of great service in acquainting students with the construction of such articles. Among these may be mentioned link belting, steampipe covering, grease cups, injectors in sections, water meters, insulated wire, lead cables, and lubricating oils. Models of a large number of machines of various kinds are also in the collection.

LABORATORIES.

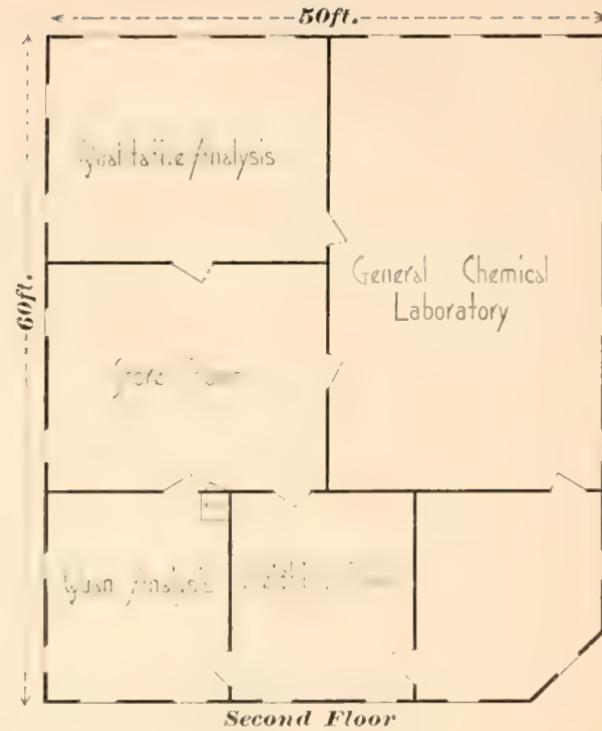
In the laboratories of the University opportunities are afforded for practical instruction in chemistry, mineralogy, physics, botany, zoölogy, entomology, horticulture, and in civil, mechanical, and electrical engineering.

CHEMICAL LABORATORIES.

The laboratories for chemical work are four in number and are situated in the new laboratory building. The laboratory of general chemistry is furnished with desks capable of accommodating thirty-five students. Each desk has a cupboard and two drawers and is provided with gas and water. The qualitative laboratory has desks for sixteen students. Each desk is provided with suitable conveniences



PLAN OF NEW LABORATORY BUILDING.



for taking care of apparatus and is supplied with all the common reagents. The room is provided with a hood and all other equipments usually found in qualitative laboratories. The quantitative laboratory has suitable accommodations for eight students and has, beside the usual equipments, a Blake ore crusher and an assay furnace. Adjoining the quantitative laboratory is the weighing room, which contains two of Becker's best analytical balances, besides a number of less accurate instruments suitable for weighing large quantities of chemicals. The storeroom contains all the apparatus and chemicals. The room is in charge of an assistant, who gives out the supplies and keeps the books. This room contains the apparatus for preparing distilled water and has also some space for laboratory work.

MINERALOGICAL LABORATORY.

The work in mineralogy is done in the qualitative chemical laboratory. This arrangement is convenient, because the students of this subject also study qualitative analysis. A suitable supply of minerals is provided for study.

PHYSICAL LABORATORY.

The physical laboratory is a room 20x40 feet and is provided with large tables suitable for use in performing experiments in general physics and physical measurements. It has also two pillars built up from the ground and independent of the rest of the building for the accommodation of delicate instruments which would otherwise be disturbed by the vibrations of the floor. The storeroom of physical apparatus is supplied with instruments suitable for illustrating the principles of physics and there is also apparatus for the use of the students in the laboratory.

BIOLOGICAL LABORATORY.

The Biological Laboratory will accommodate twenty-six students. It is well equipped with microscopes, microtomes, micro-chemical reagents, and the special apparatus for bac-



BIOLOGICAL LABORATORY.

teriological work. A large aquarium furnishes means for the preservation of living animals for classes in zoölogy. All the apparatus necessary for the collection, mounting, and preservation of plants and insects is supplied in abundance. Each table is fitted with gas and distilled water, and each student is supplied with all the chemicals and apparatus needed in botanical and zoölogical dissections, and in the hardening, sectioning, staining, and mounting of material for histological work. A micro-photographic outfit and an incubator for embryological work complete its equipment.

GEOLOGICAL LABORATORY.

This Laboratory is provided with aneroid barometers, compasses, levels, pedometers, etc., for field work, and the necessary drawing apparatus for the construction of geological sections and for making geological maps. It also contains apparatus for grinding sections of rock for microscopic examination, and a petrographic microscope. The paleontological collections contain fossils characterizing the different geological ages, being especially rich in coal plants.

ENGINEERING LABORATORY.

The boilers generating steam for heating and power also furnish practice in determining the amount of steam made for each pound of coal burned. The amount of moisture in the steam is also tested by a calorimeter constructed in the shops. A feed pump and an injector are so arranged that comparative trials may be made for efficiency as boiler feeders. The engine used to run the shops and electric light plant is used to furnish practice in measurement of power from indicator cards and the pony brake. During the session of 1892 a series of tests were made to determine the water consumption of the engine per horse power per hour, in which the weight of steam used was determined by condensing the exhaust in a feed water heater at atmospheric pressure, and weighing the amount delivered. In the fall of 1893 a 30-horse power Reynolds-Corliss engine was installed in the main laboratory where it is used to drive the dynamos, testing machine, etc. It has proved to be of the greatest service in experimental work, and especially in valve setting.

A Riehle testing machine, run by a 10-horse power motor and capable of exerting a pull or pressure of 60,000 pounds, has been installed and used in experimental work upon the materials used in buildings, bridges, and machinery. A practical application has been made in determining the tensile strength of the steel plates used in the two 30-horse power boilers for the Branch Normal shops, and the 60-horse power boiler for the Arkansas Industrial University shops.

A 2,000-pound cement testing machine is used to determine the tensile strength of various cements, and their resistance to crushing. A saw for stone cutting has been designed and constructed for the purpose of cutting out specimens for tensile and crushing tests.

ELECTRICAL LABORATORY.

The Electrical Laboratory affords excellent facilities for experimental work with practical dynamo electric machines. In the laboratory will be found the leading types of machines for arc and incandescent lighting and for power; constant current and constant potential motors, and generators, representative of the different methods of power transmission; potentiometers for standardizing measuring instruments; Weston and other voltmeters and ammeters; electro-dynamometers; galvanometers of various types—sine, tangent, reflecting, Deprez, and D' Arsonval; magnetometers; standard resistance coils and bridges; transmission and absorption dynamometers.

The excellent equipment of apparatus enables the student to carry out a very wide range of experimental work, or to attain practical efficiency in operating and testing electrical machinery and instruments. An 80 ampere 110 volt dynamo, located in the shops, supplies light and power to the main building and laboratories.

SHOPS.

The Woodworking Shop is equipped with eighteen well appointed work benches with tools, seven turning lathes, one pattern maker's lathe, one double circular saw, one scroll saw, one band saw, one reversible shaping machine, one planing machine, one buzz planer, one steam glue heater, and one trimmer.

The Forging Shop is at present provided with seven forges of the most improved design, seven anvils, and seven sets of tools, consisting of hand-hammer, tongs, calipers, steel rule, steel square, hot and cold cutters, file, flatter, fullers, wedges, punches, heading tools, etc. The forges are supplied with power blast, and an exhaust fan draws off the smoke from the forges. This shop has also a portable

machinist's forge, a blacksmith's post drill, and a combined punch, shear and bar cutter.

The Moulding Room and Foundry contains a Colliau cupola which will melt from 200 pounds to one ton of iron at once, one brass furnace, one core oven, nine sand troughs and moulders' benches combined, twelve sets of moulder's tools, consisting of heart and square trowel, slickers, rammers, riddle, flask, swab, water pot, shovel, lifters, drawer, spikes, etc., six ladles from 100 to 5 pounds capacity, and an assortment of flasks, and other necessities for a complete foundry.

The Equipment of the Machine Shop consists of thirteen work benches with vises, sets of tools, and closets, three 14-inch engine lathes, one 10-inch engine lathe, one speed lathe, one planer 24x24x72 inches, one planer 10x10x24, one Universal milling machine, one double wheel emery grinding machine, one Universal cutter grinder, one drill press, one twist drill grinder, one grindstone, chucks, and other appliances for use on the lathes, planer, etc. This shop is well equipped with hammers, steel rules, steel squares, spring dividers, chisels, twist drills, taps, dies, tap wrenches, die stocks, reamers, pipe dies, files of all sizes and shapes, wrenches, arbors, lathe-dogs, squares, scales, calipers (inside and outside), machine and hand-cutting tools, a surface gauge, a surface plate, a micrometer caliper, a set of caliper gauges, a protractor, and many other tools. The machinery is driven by a 25-horse power Westinghouse engine.

Capacity of Shops.—Seventy-five students can be accommodated in the shops at one time, divided among the rooms as follows:

Woodworking Room.....	24
Metalworking Room.....	18
Forging Room	9
Foundry	20
Fool Room	1
Engine and Boiler Rooms.....	3

The Boiler Room contains two horizontal flue tubular boilers set in the brick work, aggregating 60-horse power. These are used for heating the main building and running the shops. A 60-horse power return tubular boiler set in a three-travel furnace and having a new design of iron stack has been recently added for power purposes and experimental work. The equipment includes exhaust and live steam heaters, duplex feed pumps, injectors, steam gauges, etc. Recently a pair of tanks holding about 200 gallons each have been added for convenience in accurately measuring water used in boiler tests and other experimental work.

DRAWING ROOM.

The equipment includes the usual tables and stools; and among the special apparatus and instruments may be mentioned the planimeter, pantograph, blue-print frame, traverse table, odontograph, slide rule, sets of railroad and machine curves, roof pitches, etc. A blue print room has recently been fitted up with complete facilities for the details of the blue print process. The room is also being provided with photographic apparatus which will be used to prepare lantern slides and prints illustrating various branches of engineering.

SURVEYING EQUIPMENT.

For the work in railroad, land and city surveying, the equipment furnishes chains, tapes, plumb bobs, a Locke level, aneroid barometer, sextant, Y level, transits with solar attachment, plane table, etc. Not the least valuable part of the equipment is a surrounding country which offers problems in most of the varieties of work which meet the practical surveyor. Each year, during the summer, a party of engineering students go into camp one week for practice in surveying and locating railway lines.

GENERAL INFORMATION.

REQUIRED, ELECTIVE, AND OPTIONAL STUDIES.

Each student must have not less than fifteen recitations a week or their equivalent in practical work, two hours' practical work being considered equivalent to one hour's recitation. When fewer than fifteen recitations per week, or their equivalent, are specified in any course, the student must elect studies to supply the deficiency. Students known to be in ill health or having physical defects which interfere with their studies, are sometimes allowed less than fifteen recitations. Electives taken from the studies of a class one year below have full value; but, if more than one year below, their value will be fixed by the Faculty. Students are not allowed to take additional studies to exceed the equivalent of twenty recitation hours in all (exclusive of military work), except by permission of the Faculty.

SPECIAL STUDENTS.

Persons who desire to pursue studies in one of the colleges of the University and do not desire to become candidates for a degree, will be admitted on the following conditions:

1. In general all persons under 21 years of age must pass the entrance examinations required of candidates for some degree, as described on pages 35 to 38.
2. Persons over 21 years of age must show that they have a good knowledge of English and are otherwise prepared to pursue profitably the studies they may desire to take up.

3. Should a student who enters under the preceding provision (2) subsequently become a candidate for graduation, he must then pass all the examinations for admission required of such a candidate.

CLASSIFICATION OF STUDENTS.

A student is a member of the highest class with which he has the equivalent of nine (9) recitations per week; provided that two hours of laboratory, shop, or farm work, drawing, or sight reading, required by his course of study, be counted as equivalent to one hour of recitation.

EXAMINATIONS.

1. Examinations shall be held at the end of each term. The standard is 75 per cent.

2. If a student's grade be less than 75 per cent, he may still be allowed to take up the subject which follows naturally, provided that he is not, in the opinion of the head of the department controlling said subject and of the instructors directly concerned, incompetent; but at the first opportunity that is offered to the student thus failing to review the work on which he has failed, he must pass successfully a special examination, or go over the work at once in class.

3. In case of repeated failure to pass, the student may still continue his advanced work if he has proven himself competent, and if he is not, in the opinion of the head of the department and the instructors directly concerned, likely to be overworked on taking up again the subject on which he has failed. If he has shown himself not incompetent to continue his advanced work, but only unable to do so for lack of time or on account of conflict of studies, he may at the discretion of the Faculty be allowed to drop some other study.

HONORS.

Of the students graduating in the baccalaureate courses of the University, those who stand highest in the three col-

leges at Fayetteville receive respectively the honors in Arts, honors in Science, and honors in Engineering, provided that the average grade in each case is not below 85 per cent. These honor students represent their respective colleges in speeches or essays on Commencement day.

The honor students in 1892 were: In Arts, Miss Julia Vaulx; in Science, Miss Lula Curry; in Engineering, Mr. I. G. Hedrick. In 1893: In Arts, Miss Hadgie Davies; in Science, Mr. Harvey Moore; in Engineering, Mr. Louis Ash. In 1894: In Arts, Mr. James D. Head; in Engineering, Mr. C. J. Eld.

LITERARY SOCIETIES.

The students' literary societies, three in number, meet weekly in their respective halls, and much interest is manifested.

UNIVERSITY MAGAZINE.

The University Magazine is published monthly during the school year by an editorial board elected by the students. The editors will be glad to send the Magazine free to any high school or academy in the State. A prize of \$25 is offered to the student of the University who writes the best original contribution during the year.

LECTURE COURSE.

The University Lecture Association has been able, through the liberal patronage of students and citizens, to offer the following list of attractive entertainments:

Sam Jones, March 9, "Character and Characters."

George Kennan, April 9, "Siberia."

Ex-Governor Bob Taylor, May 11, "A Paradise of Fools."

" " " " 12, "The Fiddle and the Bow."

Donald Downey, June 13, "Napoleon."

John Fox, Jr. July 7, "A Cumberland Vendetta."

Harvard Quartette, October 15, Musical and Elocutionary programme.

General John B. Gordon, October 24, "The Last Days of the Confederacy."

Henry W. Watterson, October 27, "Money and Morals."

RELIGIOUS EXERCISES.

Religious exercises are held regularly in the University Chapel at the beginning of each daily session. Students are required to attend.

The churches of Fayetteville cordially welcome the students to their Sunday schools and various meetings for prayer and religious instruction. The denominations represented in the city are Baptists, Presbyterian, Cumberland Presbyterian, Methodist, Protestant Episcopal, Christian, and Roman Catholic; and many of the students are actively engaged in the work of the different church societies and guilds. The Young Men's Christian Association has commodious quarters in the new dormitory, and great interest is shown. A Bible class, conducted by the president of the University and other professors, has met there regularly every Sunday afternoon, and has been largely attended.

ATHLETIC ASSOCIATION.

J. F. MAYES (Ark. Ind. Univ., '82), President.
J. T. STINSON (Iowa Agr. Coll., '90), Vice President.
W. P. MASON ('97), Treasurer and Secretary.

The purpose of this organization is to encourage the growing interest which the student body is manifesting in the development of the physical man.

The Association is composed of the A. I. U. Athletic Club, the A. I. U. Tennis Club, the A. I. U. Base Ball Club, and the A. I. U. Foot Ball Club; and it is further provided that if any other club, organized by the students of the University for the practice of any sport, game, or exercise not already represented by one of the members of the Association, shall make a written application for membership in the Association, and the said application shall be approved by the Governing Body of the Association, the petitioning club shall become a member in full standing of the Association with all the rights and privileges pertaining to such membership.

SALE OF ARDENT SPIRITS NEAR THE UNIVERSITY.

By an act of the General Assembly of the State of Arkansas, approved March 6, 1875, it is unlawful for any person to sell or give any vinous or ardent spirits within 3 miles of the Arkansas Industrial University, unless it be prescribed by a regular practicing physician for medicinal purposes.

EXPENSES.

Matriculation, charged all new students	\$ 5 00
Tuition per session, charged all except beneficiary students	10 00
Music fees (see music, page 83).	
Furniture for dormitory students, at cost usually about	15 00
Board in dormitory at cost, per month, from \$ 7 00 to	8 00
Board in private families, per month from \$ 12 00 to	15 00
Uniform suit, purchased by student, from 13 00 to	17 50
Washing, per month, about	1 00

The necessary expenses for a student who wishes to live cheaply are:

Board in dormitory, 9 months, about	\$ 72 00
Washing, 9 months, about	9 00
Furniture, first year only	15 00
Matriculation, first year only	5 00

Total expenses first year, apart from books and
clothes, about

\$ 101 00

Total expenses afterward, apart from books and
clothes, about

\$ 81 00

Students leaving the University frequently sell their
furniture at a small reduction.

Rooms in the University dormitories are free, but occu-
pants provide their furniture, fuel and lights. If there are
not rooms enough for all, preference is given to Arkansas

students. An officer of the University lives in the building and superintends it, and the rooms are regularly inspected by the Faculty.

Students boarding elsewhere are under the supervision of the President of the University and are allowed to board only at places approved by him.

BOARD FOR YOUNG LADIES.

There is at present no special residence for girls. They are assisted in finding board in respectable families; but the Faculty is not so situated as to exercise constant supervision over them out of college hours. Parents at a distance who send a daughter to the University, should therefore be well satisfied as to her discretion, or else should place her under control of the family with whom she boards. The following ministers, pastors of the local churches named, kindly offer their services in assisting to secure suitable boarding places for young ladies: Rev. S. W. Davies, Presbyterian; Rev. S. Anderson, Methodist; Rev. J. T. Malloy, Cumberland Presbyterian; Rev. N. M. Ragland, Christian, and Rev. J. D. Cook, Baptist; also the Rev. J. J. Vaulx, rector of St. Paul's Church (Episcopal).

ARRIVAL OF STUDENTS.

Students, on arriving at Fayetteville, must report at once to the President of the University. No student will be allowed to recite in any class until properly enrolled, but will be held responsible for his conduct from the time of his arrival in Fayetteville.

CONDITIONS OF ADMISSION INTO THE UNIVERSITY.

All applicants for admission into the University must furnish evidence of good moral character. Recommendations from former instructors are preferred.

Dismissed or expelled students from other institutions of recognized standing will ordinarily be refused admission to the University.

PREPARATION FOR THE FRESHMAN CLASS.

1. *English.* Meiklejohn's English Grammar with analysis, or a full equivalent: a composition of 200 to 300 words, correct in spelling, punctuation, paragraphing, and grammar, upon a subject announced at the time of the examination. In 1895 the subject will be taken from Scott's Ivanhoe, or Shakespeare's Merchant of Venice, or Julius Cæsar.

In 1896 students will be examined in Raub's Rhetoric instead of Meiklejohn's Grammar, and the subject of composition will be taken from Scott's Ivanhoe (Ginn & Co.) or from Shakespeare's Julius Cæsar, or Tempest (Maynard, Merrill & Co.).

Students, preparing for the Freshman class, should use annotated editions of these books and should use constantly an unabridged dictionary. They should write as many as six compositions on subjects taken from these books, and should make a thorough review a short time before examination. More than half the failures are in composition and in the last half of Meiklejohn's Grammar.

2. *Arithmetic.* The examination will be taken from Wentworth's Grammar School Arithmetic, the whole of which is required. Teachers preparing candidates for entrance should, in teaching arithmetic, require them to analyze every example capable of analysis, or give a thorough course in mental arithmetic. Students who are not quick at analysis in arithmetic usually make poor progress in higher mathematics.

3. *Algebra.* To Quadratic Equations involving two unknown quantities, with special attention to factoring, the theory of exponents, and radicals. The examination will be

taken from Wentworth's Algebra. In 1896 Algebra through Quadratic Equations will be required.

4. *Plane Geometry.* The first four books of Wentworth's Geometry. In 1896 the whole of Plane Geometry will be required.

5. *History.* The examination will be taken from Eggleston's History of the United States, and from Barnes's General History.

6. *Geography.* Any complete manual, such as Harper's or Maury's, will give the preparation, if thoroughly mastered. Special attention is given to the geography of the United States and of Arkansas.

7. *Physiology.* Martin's Human Body, briefer course.

8. *Latin.* Jones's First Lessons in Latin complete, with all its references to Gildersleeve's Latin Grammar: Cæsar's Gallic War, four books, with questions on the implied grammar and on the subject matter, military equipment, etc. Kelsey's or Greenough's Cæsar is recommended. Latin is not required for admission except to the College of Liberal Arts or to the Normal School. In 1897 Tuell & Fowler's First Book in Latin will be substituted for Jones's Lessons.

Candidates for the higher classes, or for the Freshman Class after beginning of session, will be examined also in subjects passed over by the class.

Each student should come prepared for all the studies in some one class. If he is behind in one or more studies, he becomes irregular, and is necessarily subject to many inconveniences, though he may be admitted and classified according to his attainments.

ORDER OF EXAMINATIONS FOR ADMISSION.

Tuesday, March 5.—9 a. m., Registration of all students who are required to matriculate.

Wednesday, March 6.—9 to 12 m., Geometry and Physiology, Reading; 1 to 4 p. m., Algebra, Geography.

Thursday, March 7.—9 to 12 m., Arithmetic; 1 to 4 p. m., Latin, Reading.

Friday, March 8.—9 to 11 a. m., English Grammar and Analysis; 11 to 12 m., English Composition, Reading; 1 to 4 p. m., U. S. History, General History, Reading.

EXAMINATIONS AT PLACES OTHER THAN FAYETTEVILLE.

Students living more than a hundred miles from the University may, by making satisfactory arrangements, obtain special local examinations two weeks before the beginning of each session. The questions will be sent to any principal of a school or county examiner who will supervise the examination for the candidate, provided such officer makes his application in time. Such application must reach the University as early as February 1 for admission for first term. The questions must be submitted by the superintendent or principal to the candidate under the usual restrictions of a written examination, and the questions and answers must be returned by the same officer to the University with his indorsement that the examination has been properly made. Candidates should in all cases return only fair and honest answers; otherwise they will be seriously embarrassed in their future courses. The candidate must secure the consent of the principal or superintendent who is to hold the examination.

ADMISSION UPON ACCREDITED CERTIFICATES.

Accredited Schools—Any high school or academy whose course of instruction covers all the branches requisite for admission to the University, may be placed upon the accredited list of preparatory schools. Upon application from the principal of any high school or academy, an officer of the University will be sent as soon as possible to examine the course of study and methods of teaching. If his report is favorable the school will be placed upon the accredited list and its graduates will be admitted to the Freshman Class without examination. Students of accredited schools who may not be graduates, will be excused from examination on subjects re-

quired for admission into the University, upon certificates of proficiency in such studies from the principal. A school once placed upon the accredited list will remain there until its administration is changed, or until a notification that the work is unsatisfactory is received from the University. Upon a change of administration, an application to be continued upon the list of accredited schools should be forwarded to the University. Such request may be granted without a new examination if the authorities can assure themselves that no prejudicial changes in the courses of study or in the thoroughness of instruction will be made.

The University will do all in its power to bring about that close and cordial relation which should bind together the various branches of the common school system.

LIST OF ACCREDITED SCHOOLS.

- Fort Smith High School, Principal, B. W. Torreyson.
- Rogers Academy, Principal, J. W. Scroggs.
- Little Rock High School, Principal, Lewis Rhoton.
- Marianna Institute, Principal, T. A. Futrell.
- Lonoke High School, Principal, J. J. Doyne.
- Jonesboro State Normal School, Principal, C. L. Sampson.

APPOINTMENT OF BENEFICIARIES.

All appointments shall be completed, if possible, before the opening of the Spring term. The County Judges make the appointments and send them according to the directions below. If the appointee fails to appear at the University within twenty days after an appointment (except in case of sickness), he or she will be regarded as having declined the appointment, in which case it will be the duty of the President of the University to notify the person making the appointment of such failure, and he, in turn, should make another appointment as soon thereafter as possible. The President shall continue to notify appointing officers until their respective number of appointees make their appearance at the University.

All the beneficiary students should be present at the opening of the Spring term, and unnecessary delay will lead to the forfeiture of their appointments.

QUALIFICATIONS.

The attention of County Judges is called to the fact that *no beneficiary student will be admitted unless he has the following qualifications:*

Students are not admitted until they have become familiar with the leading principles of arithmetic. In reading, they must be able to understand and intelligently render specimens of the grade of the Fifth Reader, must have a good knowledge of elementary English grammar, geography, and the spelling of all words of the grade of the Fifth Reader. These qualifications are the test of admission at the beginning of the session; those applying later will be admitted only on the grade of the class. (See admission to Preparatory Department, p. 131.)

FORMS OF APPOINTMENT.

Students who have been appointed beneficiaries must bring evidence of appointment in the following forms of notice, to be sent by the Judge of the County Court, in accordance with the sixth section of an act approved March 6, 1875:

[*Form 1—Appointment.*]

No..... [To be given to the Student.]

To whom it may concern:

I hereby appoint.....of County,
State of Arkansas, as a beneficiary to the Arkansas Industrial University.

Given under my hand this.....day of..... 189

Send a notice like the following to the President of the University, and one to the Secretary of the Board of Trustees, at Fayetteville:

[*Form 2—Notice to President of University.*]

..... Arkansas, }

To the University.

I hereby notify you that I have this day appointed of
..... County, State of Arkansas, a beneficiary to the Arkansas Industrial University.

Given under my hand this day of 189 ..

NUMBER OF BENEFICIARIES.

The number of beneficiaries is limited to one thousand, distributed to the counties of the State in proportion to the population of 1880, and in every case in which a county fails to supply its quota of beneficiaries, the Governor is authorized to appoint such beneficiaries to the full number authorized by law; *provided* that such appointment may be vacated on application from a county so failing to fill its quota, but may be resupplied from some other county whose quota has not been filled:

COUNTIES.	Beneficiaries.	COUNTIES.	Beneficiaries.
Arkansas	10	Lee	16
Ashley	13	Lincoln	12
Baxter	7	Little River	6
Benton	24	Logan	19
Boone	15	Lonoke	15
Bradley	8	Madison	15
Calhoun	7	Marion	10
Carroll	16	Miller	12
Chicot	12	Mississippi	9
Clay	13	Monroe	12
Clark	15	Montgomery	7
Cleburne	8	Nevada	17
Cleveland	10	Newton	6
Columbia	19	Ouachita	15
Conway	16	Perry	6
Craighead	8	Phillips	28
Crawford	11	Pike	3
Crittenden	11	Poinsett	7
Cross	6	Polk	3
Dallas	9	Pope	19
Desho	14	Prairie	10
Drew	15	Pulaski	45
Faulkner	17	Randolph	12
Franklin	18	Saline	11
Fulton	8	Scott	19
Garland	11	Searcy	7
Grant	8	Sebastian	28
Greene	9	Sevier	8
Hempstead	24	Sharp	12
Hot Spring	10	Stone	8
Howard	12	St. Francis	10
Independence	21	Union	16
Izard	14	Van Buren	11
Jackson	15	Washington	30
Jefferson	29	White	21
Johnson	15	Woodruff	12
Lafayette	6	Yell	18
Lawrence	10		

There is also one "Honorary Scholarship" to each county, to be elected for superior merit and proficiency, from the public schools of each county, according to section 2 of act of July 23, 1868.

ABSENCES.

Absences from the University during the session are not permitted except for reasons of importance. The parent has, at all times, the right to withdraw his son entirely and finally, without reason assigned; but without so withdrawing him, he cannot relieve him of the obligation to attend to his duties at the University. The incidental absences of students during the session are exceedingly disadvantageous, both to themselves and to the University. While, therefore, the Faculty permit them, in cases where propriety or urgent necessity seems to make them unavoidable, they hold it to be a duty to inquire into the reasons for which the permission is solicited.

No absences are permitted during the summer term for reasons that would not be valid at other times.

WITHDRAWAL OF STUDENTS.

Parents or guardians who wish to withdraw their children or wards from the University should write to the President stating their wishes. No honorable discharge will be given to a student under age, who is unable to produce the written application of his parent or guardian for his withdrawal, or if his number of demerits shall exceed the proportion of 200 allowed during the session. Nor will an honorable discharge be given to a student under censure of any kind, whether for neglect of duty or other cause, even though he may have the consent of his parent or guardian for his withdrawal from the University.

THE AGRICULTURAL EXPERIMENT STATION.

The national government established the Experiment Station as a department of the University in 1887, and maintains it to investigate agricultural problems for the aid of the farmers of the State.

The work of the Experiment Station is divided into the special lines of agriculture, horticulture, chemistry, and animal and plant diseases. Specialists are employed in each



EXPERIMENT STATION.

line, and experiments are made both in the field and laboratory in the improvement of soils, the rotation of crops, diseases of plants and domestic animals, in fertilizers, the value of stock foods, dairying, and other matters. The experiments and their results are published in bulletins which are sent free to farmers, stock raisers, and fruit growers of the State, and to others interested in agriculture.

Branch Stations are established at Newport and Camden in the northeast and southern divisions of the State, to make agricultural and horticultural experiments applicable to

the soil and climate of those localities. Soil and climate divide the State into three agricultural divisions. The growing season at the southern branch station is from two to two and one-half months longer than the season at Fayetteville in the northwestern part of the State. The season at Newport is intermediate between the other two and has alluvial soil, while the northwest section has clay soil, and the southern section light sandy soil. The chief line of work at the southern branch station is experiments in truck farming for northern markets, as the soil and climate of that section is specially adapted to truck farming. Evidence of the profit in truck farming is seen in the increasing numbers that annually engage in it.

The bulletins published by the Station this year are seven and comprise 200 pages. They are upon the following subjects:

BULLETIN NO. 25.—*Animal Pathology*.—Unsound Corn and Forage as a Cause of Disease in Live Stock; Colics in Horses and Mules; Some Further Experiments with Texas Cattle Fever.

BULLETIN NO. 26.—*Horticulture*.—Spraying Apple Trees; Spraying for Apple Scab; Spraying for Bitter Rot; Prevalence in the State of Apple Scab and Bitter Rot; Varieties of Apples in the State Reported as Surest Bearers; Some Apples Adapted to all Sections of the State; Arkansas Seedling Apples.

BULLETIN NO. 27.—*Agriculture*.—Experiments at the Northeast Station; Late Crops for Overflow Lands; Corn; Varieties for all Sections of the State, Corn Culture; Rotation of Crops; Cotton Culture; Egyptian Cotton—Two Varieties; Stack-Frame for Curing and Storing Cowpea Hay; Cowpea Hay; Oats for Hay; Forage Plants; List of Some Agricultural Books and Seed Houses.

BULLETIN NO. 28.—*Agriculture*.—Experiments at the Southern Branch Station; Rye for Green Winter Feeding; Fertilizer Experiments with Rye; Onions from Seed; Salsify or Oyster Plant; Fall Raised Irish Potatoes; Preparation of Soil for Cotton; Bermuda Grass; Pocket Gopher; Moles.

BULLETIN NO. 29.—*Agriculture*.—Wheat Experiments on Sandy Loam Soil at Newport Sub-Station; Some Grass Experiments on Clay Loam Soil at Fayetteville.

BULLETIN NO. 30.—*Stock Feeding*.—Feeding Standards; Some Arkansas Stock Foods; Compounding Food Rations.

BULLETIN NO. 31.—*Agriculture*.—Draining Lowlands and Terracing Uplands.

For the Station bulletins apply to the Director of the Station, Fayetteville, Ark. One application is sufficient to obtain all future bulletins, if desired.

MILITARY.

The head of this department is the officer of the United States Army detailed by the War Department for duty at the University.

All male students over 15 years of age are required to take the practical course in military science, which includes Infantry and Artillery drill, target practice, camping, guard duty and various other exercises, the course covering the entire period of the student's stay at the University. This instruction is in accordance with the act of Congress donating lands for the establishment of the University, which requires that "Military Science and Tactics" shall be taught in addition to the usual course of study.

The system of practical instruction closely follows that used in the United States Army. It contains a course of gymnastic exercises for the development and improvement of the arms, chest, legs, hands and feet, which is unexcelled.

Besides being the perfection of physical training, this instruction has many advantages mentally. The necessity of being alert, listening for each word of command, and acting promptly on it, quickens the wit and cultivates the habit of fixing the attention and concentrating the thoughts. In addition to all this it inculcates in the student a respect for authority and discipline which is equaled by no other system, and thus enables the University to send out annually young men who are fully competent to officer the various organizations of the State Guard.

The cadets are organized into a battalion composed of a staff, band, and three companies. In addition to these, there is a special company composed of the best drilled cadets of the three regular companies, organized voluntarily for extra drill, and it drills three hours per week in addition to the regular drills.

The officers and noncommissioned officers of the battalion are selected from those students who are most proficient in their drill and military studies and most exemplary in their deportment, the captains and lieutenants being taken usually from the Senior and Junior classes, and the sergeants and corporals from the Sophomore and Freshman classes. An office in the battalion of cadets is one of merit and distinction, and any unbecoming conduct will subject the appointee to reduction to the ranks.

A competitive drill is held each year; the winning company carries the flag for the ensuing year, and a gold medal is awarded the best drilled cadet. The battalion will be taken into camp annually for a period not exceeding ten days.

In connection with the battalion there is a band composed of cadets, not to exceed twenty. It receives the best theoretical and practical instruction attainable, practices four times per week, and performs at all military ceremonies.

The three students of the Senior class having the highest grade of merit in this department will be reported to the Secretary of War, and their names will be recorded in the Adjutant General's office and published in the Army Register for that year. The President of the United States, in appointing officers from civil life, gives preference to those whose names are so recorded. Cadet officers, on graduation, are brevetted in the State Guard with the rank held by them in the cadet battalion at the date of their graduation, and recommendations of the Commandant of Cadets as to special military qualifications of graduates of the military course are filed in the office of the Adjutant General of the State and considered in appointing commissioned officers of the State Guard.

A neat uniform of gray cloth, with brass buttons and black trimmings, is required to be worn by all cadets at drills. The uniform, complete, costs about \$16, and with ordinary care will last an entire year. Parents will save money by postponing the purchase of uniforms for their sons until they arrive in Fayetteville.

ORGANIZATION OF THE BATTALION FOR 1894.

Elias Chandler, 1st Lieut., 16th U. S. Infantry, Commanding the Battalion.

STAFF.

First Lieutenant and Adjutant.....	J. D. Nash.
First Lieutenant and Quartermaster.....	J. W. Hicks.
Sergeant Major	W. P. Mason.
Quartermaster Sergeant	J. H. Grimmett

BAND.

First Lieutenant, Commanding the Band.....	W. H. Wood.
Band Leader.....	Frank Barr.
Drum Major	C. D. Head.

COMPANY "A" (color company).

Captain.....	S. L. Morley.
First Lieutenant.....	J. E. Martineau.
Second Lieutenant.....	Cameron Duncan.
First Sergeant.....	J. L. Moore.
Sergeant.....	N. G. Turner.
Sergeant.....	J. R. Howard.
Sergeant.....	George Nicholls.
Sergeant.....	R. Shaha.
Corporal.....	W. H. Abernathy.
Corporal.....	Thomas Arnn.
Corporal.....	P. G. Traylor.
Corporal.....	A. S. Hagood.

COMPANY "B."

Captain.....	Chester Russell.
First Lieutenant.....	J. E. Beavers.
Second Lieutenant.....	E. K. Braly.
First Sergeant.....	A. J. McDaniel.
Sergeant.....	S. J. Taylor.
Sergeant (Color).....	J. F. Summers.
Sergeant.....	W. M. Fishback.
Sergeant.....	H. H. Rightor.
Corporal.....	S. B. Hill.
Corporal.....	H. Y. Fishback.
Corporal.....	Powell Clayton.
Corporal.....	T. B. Martin.

COMPANY "C."

Captain.....	A. M. Brixey.
First Lieutenant.....	E. V. Smith.
Second Lieutenant.....	J. H. Davis.
First Sergeant.....	E. L. Spencer.
Sergeant.....	W. E. Pruitt.
Sergeant.....	W. T. Chammers.
Sergeant.....	G. H. Askew.
Sergeant.....	F. P. Earle.
Corporal.....	Harold Leach.
Corporal.....	Fred Jones.
Corporal.....	J. L. Warren.
Corporal.....	T. R. Wright.



A 4

BATTALION.

ORGANIZATION OF THE UNIVERSITY.

The following are the colleges, schools, and courses:

I. AT FAYETTEVILLE.

1. *The School of Agriculture.*

Farmers' Course.

2. *The College of Mechanic Arts and Engineering.*

- (a) Course in Mechanical Engineering.
- (b) Course in Civil Engineering.
- (c) Course in Electrical Engineering.
- (d) Mechanic Arts Course.
- (e) Stationary Engineer's Course.
- (f) Trades Course.
- (g) Short Course in Electrical Engineering.

3. *The College of Science.*

- (a) Course in Chemistry.
- (b) Course in Botany.
- (c) Course in Zoölogy.
- (d) Course in Entomology.
- (e) Course in Geology.
- (f) Course in Pharmacy.

4. *The College of Liberal Arts.*

- (a) Course in Arts with Mathematics.
- (b) Course in Arts with Modern Languages.
- (c) Course in Arts with Ancient Languages.
- (d) Course in Arts with History.

5. *The Normal School.*

Normal Course.

6. *The Graduate Courses.*

7. *The Preparatory Department.*

- (a) Agricultural Course.
- (b) Engineering Course.
- (c) General Course.

8. *The Agricultural Experiment Station.*

II. AT LITTLE ROCK.

9. *The Medical School.*

- (a) Preliminary Course.
- (b) Course in Medicine.

10. *The Law School.*

III. AT PINE BLUFF.

11. *Branch Normal College.*

- (a) Normal Course.
- (b) Mechanical Course.

DEPARTMENTS OF INSTRUCTION.

The arrangement of elective courses enables students to concentrate their work upon special lines or subjects, and each student is expected to complete the undergraduate studies of at least one language or science. The following rules for elective studies will be observed:

1. No study can be elected, unless the professor in charge deems the student prepared to pursue it.
2. No elective study shall be changed before the end of the term.

No professor shall be required to teach an elective course, unless three or more students pursue it.

The figure on the left is the number of the course; that on the right is the number of recitation hours per week.

AGRICULTURAL DEPARTMENT.

A. E. MENKE, Superintendent of Agriculture.

JEROME MCNEILL, Professor of Horticulture.

W. B. BENTLEY, Associate Professor of Chemistry.

R. R. DINWIDDIE, Veterinarian.

W. F. BATES, Instructor in Agriculture.

1.	<i>Veterinary Anatomy</i> .....	.....	.....	.....	.....	.....	3
	Lectures and laboratory work (first term).						Dr. Dinwiddie.
	Required of Sophomores in Farmers' Course.						
2.	<i>Veterinary Science</i> .....	.....	.....	.....	.....	.....	3
	Lectures and demonstrations (second and third terms).						Dr. Dinwiddie.
	Required of Sophomores in Farmers' Course.						
3.	<i>Horticulture</i> .....	.....	.....	.....	.....	.....	4
	Class-room and practical work (first term).						Professor McNeill.
	Required of Sophomores in Farmers' Course.						

4. *Advanced Agriculture* 2

This course can be taken by those students only who have passed the preparatory course, and have some knowledge of chemistry and botany.

Professor Menke.

Required of Sophomores in Farmers' Course.

5. *Stock Breeding* 3

Class-room work on the principles of improvement and selection according to Warfield, Sanders and Powell.

Required of Sophomores in Farmers' Course.

6. *Advanced Dairy Husbandry* 4

Second and third terms. The management of large dairies, the principles of scientific feeding, the economic production of dairy products and other related topics.

Mr. Bates.

Required of Sophomores in Farmers' Course.

MECHANIC ARTS AND ENGINEERING.

C. V. KERR, Mechanical Engineering, Superintendent Mechanic Arts.

J. J. KNOCH, Civil Engineering.

W. N. GLADSON, Electrical Engineering.

MACK MARTIN, Machine Shop, Ass't Superintendent Mechanic Arts.

F. P. NICHOLAS, Wood Shop.

S. W. BASHAW, Forging and Founding.

C. S. DUGGANS, Engineer.

1. *Practical Draughting and Blue Printing* 2

Lectures and practice 4 hours a week throughout the year. Working drawings, titles, tracing, preparing, and using blue print paper.

Associate Professor Gladson, Acting Instructor.

Required of Freshmen in the Engineering Courses.

2. *Machinist Work* 4

Eight hours per week throughout the year. Chipping and filing, turning, planing, milling, drilling, grinding, metal fitting, and erection of machinery, millwrighting, care of engines and boilers. Text-book: Rose's Complete Practical Machinist; Lectures and Practice.

Messrs. Martin and Duggans.

Required of Freshmen in Engineering Courses.

3. *Descriptive Geometry* 2

Recitations and practice two hours a week throughout the year. Text-book: Church's Descriptive Geometry.

Associate Professor Gladson, Acting Instructor.

Required of Sophomores in the Engineering Courses.

4. *Surveying* 2

First and second terms. Care, use and adjustment of instruments; use

- of chain, tape, compass, transit, solar attachment, level, sextant and plane table; land surveying, leveling, contouring, laws and instructions relating to surveys of the public domain. Text-book: Gillespie's Surveying.
 Associate Professor Knoch.
 Required of Sophomores in Engineering and in Science Course V.
5. *Field Practice* 2
 Exercises in land, city, and topographical surveying.
 Associate Professor Knoch.
 Required of Sophomores in Engineering and in Science Course V.
6. *Mechanic Arts Courses* 5
 During the fourth year of the Mechanic Arts Courses a student may choose for the subjects of his shop work any one of the following:
 (a) Carpentry and cabinet making Mr. Nicholas.
 (b) Pattern making Mr. Nicholas.
 (c) Founding Mr. Bashaw.
 (d) Forging Mr. Bashaw.
 (e) Machine shops Mr. Martin.
 (f) Engine, boiler, and dynamo running Professor Kerr,
 Associate Professor Gladson, and Mr. Duggans.
7. *Highways* 2
 Two hours per week, third term. The location, construction, and maintenance of common, macadam, and Telford roads; brick, stone, wood, and asphalt pavements for city streets. Text-book: Gillmore's Roads, Streets, and Pavements.
 Associate Professor Knoch.
 Required of Sophomores in Engineering Courses.
8. *Electricity and Magnetism* 3
 Text-book: Mascart and Joubert's Electricity and Magnetism. Reference books: Cummings' Electricity and Ewing's Magnetism.
 Associate Professor Gladson.
 Required of first year students in short course in Electrical Engineering.
9. *Railroad Engineering* 2
 Two hours per week first term, one hour second term, and four hours per week third term. Preliminary surveys and location; transition curves, yards, and turnouts; estimates of earthwork and material used in construction; the economics of railway location and management. Text-books: Searle's Field Engineering, first term; Crandall's Transition Curve and Earthwork Computations, second term; Wellington's Economic Theory of Railway Location, third term.
 Associate Professor Knoch.
 Required of Juniors in Civil Engineering.
10. *Elements of Mechanism* 3
 Three hours per week, first term. Theory of motion and velocity ratios;

designs of gear wheels, cones, link motions, trains of mechanism. Text-book: Stahl and Woods' Elements of Mechanism.

Mr. Martin.

Required of Juniors in Mechanical and Electrical Engineering Courses.

11. Electrical Laboratory 2

Two afternoons a week throughout the year. An extended course in magnetic and electrical measurements; current, electro-motive force, and resistance; use and calibration of instruments, volt meters, and potentiometers; exploration of magnetic fields; dynamo work begun.

Associate Professor Gladson.

Required of Juniors in full course and of second year students in short course in Electrical Engineering.

12. Field Practice 2

Location of curves, turnouts, and wyes; measurement of embankments and cuts and computation of volumes.

Associate Professor Knoch.

Required of Juniors, Civil Engineering Course.

13. Machine Design 3

Three hours per week, second term. A study of the principles and conditions modifying the design of fastenings, journals, belt and rope gearing, chains, linkwork, pistons, crossheads, valves, lubricators, etc. Text-book: Mervin's Machine Design.

Mr. Martin.

Required of Juniors in Mechanical and Electrical Engineering Courses.

14. Technical Drawing 2

Lectures and practice two and three afternoons a week throughout the year. Working drawings of electrical apparatus: wiring plans designed by student.

Associate Professor Gladson.

Required four hours per week of the Juniors in the full course, and six hours per week of the second year students short course in Electrical Engineering.

15. Railroad Survey 12

One week, twelve hours per day. Actual field practice in reconnaissance, preliminary survey, and location.

Associate Professor Knoch.

Required of Juniors and Seniors in Civil Engineering Course and of Sophomores in all Engineering Courses.

16. Electrical Engineering 5

Telephone and telegraph; tests; methods of regulating and controlling dynamos and motors; station management; storage batteries; application of electricity to street car and mine work. Text-book: Slingo and Brooker's Electrical Engineering. Reference books: Thompson's Dynamo Electric Machinery; Crocker and Wheeler's Practical Management of Dynamos and Motors.

Associate Professor Gladson.

Required of second year students in short course in Electrical Engineering.

17. *Drawing* 2
 Pen and colored topography; profiles; topographical and railroad maps from actual surveys.
 Required of Juniors in Civil Engineering. Associate Professor Knoch.
18. *Valve Gears* 3
 Three hours per week, third term. An analytical and graphical treatment of the plain slide valve, shifting eccentrics, link motions, radial, double and drop cutoff valve gears. Text-book: Peabody's Valve Gears.
 Mr. Martin.
 Required of Juniors in Mechanical and Electrical Engineering Courses.
19. *Dynamo Electric Machinery*.
 Recitations first term four hours a week; second term two hours a week. Confined chiefly to direct current apparatus including types of motors, generators, and transformers; design, calculations, construction testing and operating. Text-book: Thompson's Dynamo Electric Machinery.
 Associate Professor Gladson.
 Required of Juniors in the Electrical Engineering Course.
20. *Masonry Construction* 3
 Three hours per week, third term. Use of lime and hydraulic cement mortars; stone and brick masonry foundations; foundations in soft materials on land and under water; cofferdams, cribs and caissons. Text-book: Baker's Masonry Construction.
 Associate Professor Knoch.
 Required of Juniors in Civil and Mechanical Engineering Courses.
21. *Mechanical Laboratory* 4
 Study of processes of blue printing and photography; gas analysis; calorific power of fuels; friction of belting; tests of lubricants; calibration of thermometers, gauges and indicators; planimeters and indicator cards.
 Professor Kerr.
 Required of Juniors in Mechanical Engineering Course.
22. *Steam Engineering* 3
 Three hours per week first two terms, two hours per week third term. Principles of construction and operation of the stationary engine; study of typical high speed and Corliss engines. Different kinds of steam pumps, pulsometers, injectors, pumping engines; construction and management of boilers; calorific power of fuels; chimney and mechanical draft; valves, fitting, and other boiler accessories. Text-book: Whitteman's Constructive Steam Engineering.
 Professor Kerr.
 Required of Juniors in Engineering Courses.
23. *Mining Engineering* 1
 Lectures one hour per week first term. Mine surveying, blasting, timbering and winning deposits; ventilation, hygiene, and mining law.
 Associate Professor Knoch.
 Required of Juniors in Civil Engineering Course.

24. *Technical Drawing* 2
Lectures and practice two hours a week, first and second terms; extension of course 14. Drawings of circuit and machine; electrical calculations and mechanical designs of electrical machinery; complete power plants designed by student.
Associate Professor Gladson.
Required of Seniors in Electrical Engineering Course.
25. *Practical Management of Dynamos and Motors* 2
Recitations. Third term, two hours a week. A practical treatise on installing, starting, testing, locating, and remedying faults in dynamos and motors. A practical laboratory guide. Text-book: Crocker and Wheeler's Practical Management of Dynamos and Motors.
Associate Professor Gladson.
Required of Juniors in Electrical Engineering Course.
26. *Sanitary Engineering* 3
Three hours per week, first term. Calculation and special details of construction of sewers; separate and combined systems of sewerage; purification of sewage; municipal and domestic sanitation. Text-book: Baumeister's Cleaning and Sewerage of Cities.
Associate Professor Knoch.
Required of Seniors in Civil Engineering Course.
27. *Statics and Dynamics* 2
Two hours per week second term, three hours third term. Forces; statics of a material point, of a rigid body, of a flexible cord; motion of a material point; moment of inertia; dynamics of a rigid body; work, energy, and power; friction. Text-book: Church's Mechanics of Engineering.
Mr. Martin.
Required of Juniors in Engineering Courses.
28. *Arches and Dams* 2
Two hours per week, first term. Theory of the equilibrium of arches and stability of masonry dams, by both analytical and graphic methods; drawings for complete designs. Text-book: Baker's Masonry Construction.
Associate Professor Knoch.
Required of Seniors in Civil Engineering Course.
29. *Strength of Materials* 4
Four hours per week, first term. Elementary stresses and strains, tension, compression, shearing, torsion, flexure of homogeneous prisms, continuous girders; flexure of long columns. Text-book: Church's Mechanics of Engineering.
Mr. Martin.
Required of Seniors in Engineering Courses.
30. *Electrical Laboratory* 2
Four hours a week throughout the year. This is an extension of course

11 and must be preceded by it. A full experimental course in operating and testing, direct and alternate current machines, transmission, storage, and transformation, of electric energy. Special courses given, suited to the preparation and object of the student.

Associate Professor Gladson.

Required of Seniors in full course, and of second year students in short course in Electrical Engineering.

31. *Field Practice* 2

Two hours per week, first and second terms. Topographical survey, triangulation, and leveling.

Associate Professor Knoch.

Required of Seniors in Civil Engineering Course.

32. *Steam Engine Regulation* 2

Lectures. Two hours per week, first and second terms. Discussion of the form and purpose of fly wheels; design of fly wheels as modified by stresses due to high speed or sudden stoppage; weight of fly wheel, balance of reciprocating parts. Theory, construction, and adjustment of throttling, pendulum, and shaft governors; theory of coiled springs.

Professor Kerr.

Required of Seniors in Mechanical and Electrical Engineering Courses.

33. *Telephone and Telegraph* 2

Lectures and recitations. One term, two hours a week. Text-book: Preece's Telephone, Thom. and Jones's Telegraphic Connections.

Associate Professor Gladson.

Required of Seniors in the Electrical Engineering Course.

34. *Stereotomy and Drawing* 2

Two hours per week first term. Right and oblique arches; cloisters and domes; isometric projections and drawings for templet patterns; stone cutting. Text-book: Warren's Stone Cutting.

Associate Professor Knoch.

Required of Seniors in the Civil Engineering Course.

35. *Thermodynamics* 3

Three hours per week, first and second terms. Effect of heat on gases and vapors; study of general laws and their application to injectors; hot air, gas, and steam engines; Hirus' analysis; theory of compound engines; air compressors. Text-book: Peabody's Thermodynamics.

Professor Kerr.

Required of Seniors in Mechanical and Electrical Engineering Courses.

36. *Roofs and Bridges* 4

Four hours per week, second and third terms. Theory of computation of stresses by both analytical and graphic methods; full computations, designs, and bills of material for a roof truss and railroad bridge. Text-books: Merriman and Jacoby's Roofs and Bridges, Parts I. and II.

Associate Professor Knoch.

Required of Seniors in Civil Engineering Course.

37. *Hydraulics* 5
 Five hours per week, second term. Fluid pressure; pressure in tanks and reservoirs; flotation; gaseous fluids; flow of liquids through pipes and orifices; dynamics of gaseous fluids; impulse and resistance of fluids. Text-book: Church's Mechanics of Engineering.
 Mr. Martin.
 Required of Seniors in Engineering Courses.
38. *Mechanical Refrigeration* 3
 Three hours per week, third term. Study of fluids available; machinery and apparatus used in compression, and absorption systems; methods of freezing, cold storage; refrigeration from central stations. Lectures, recitations, and prescribed reading.
 Professor Kerr.
 Required of Seniors in Mechanical Engineering Course.
39. *Electricity and Magnetism* 2
 Recitations and practice. Twice a week, third term. Text-book: Gray's Absolute Measurements in Electricity and Magnetism.
 Associate Professor Gladson.
 Required of Seniors in the Electrical Engineering Course.
40. *Engineering Laboratory* 2
 Two hours per week, first and second terms. Tests of strength, and other properties of materials of construction; tensile and crushing tests of brick, stone and cement; flow of water through pipes, elbows, valves, and measurement by means of weirs.
 Professor Kerr and Associate Professor Knoch.
 Required of Seniors in Civil and Mechanical Engineering Courses, first and second terms; of Seniors in Electrical Engineering, second term.
41. *Drawing* 2
 This course accompanies the work in Elements of Mechanism, Machine Design, Valve Gears, Fly Wheels and Governors; and consists of problems in design to illustrate the principles taught.
 Professor Kerr.
 Required of Juniors in the third term and of Seniors in the first and second terms in Mechanical Engineering Course.
42. *Laws of Business* 3
 Three hours per week, third term. Study of law of sales, agency, partnership, common carriers, contracts, patents, insurance, real estate, etc. Text-book: Parson's Laws of Business.
 Professor Kerr.
 Required of Seniors in Engineering Courses.
43. *Theory of Alternate Currents* 3
 Recitations. Three hours a week, third term, two hours a week, first term. Text-book: Flemming's Alternate Current Transformer, Vol. I.
 Associate Professor Gladson.
 Required of Juniors, third term, and of Seniors, first term, in the Electrical Engineering Course.

44.	<i>Drawing</i>	2
	Two hours per week, second term. Structural details; working drawings for designs.	
	Associate Professor Knoch.	
	Required of Seniors in the Civil Engineering Course.	
45.	<i>Turbines</i>	2
	Two hours per week, third term. Action of a jet of water on a moving vane; impulse and reaction wheels; modern turbine, form, efficiency, and methods of regulation. Text-book: Trowbridge's Turbine Wheels; Wood's Reaction Motors; Lectures.	
	Professor Kerr.	
	Required of Seniors in Mechanical Engineering Course.	
46.	<i>Electric Railways</i>	3
	Recitations and lectures. Three times per week, third term. Text-book: Crosby and Bell's Electric Railway in Theory and Practice.	
	Associate Professor Gladson.	
	Required of Seniors in the Electrical Engineering Course.	
47.	<i>Pumping Machinery</i>	3
	Three hours per week, third term. Design, construction, and operation of pumps and pumping machinery, with special reference to waterworks service. Text-book: Barr's Pumping Machinery. Professor Kerr.	
	Required of Seniors in the Civil and Mechanical Engineering Courses.	
48.	<i>Waterworks</i>	4
	Four hours per week, second term. Study of systems of water supply; collection, purification, and distribution of water; location of waterworks with details of estimate of cost. Text-book: Fanning's Hydraulic and Water Supply Engineering.	
	Associate Professor Knoch.	
	Required of Seniors in the Civil Engineering Course.	
49.	<i>Power Plants</i>	1
	One hour per week, third term. Study of steam and water power plants as illustrated by the best practice; specifications. Lectures and prescribed reading.	
	Professor Kerr.	
	Required of Seniors in the Mechanical Engineering Course.	
50.	<i>Alternate Current Machinery</i>	3
	Recitations and lectures. Three times a week, second term. Text-book: Flemming's Alternate Current Transformer, Vol. II.	
	Associate Professor Gladson.	
	Required of Seniors in the Electrical Engineering Course.	
51.	<i>Graphics</i>	1
	Lectures. One hour per week, first term. Graphical arithmetic; force diagrams; moment of inertia; stresses in trusses and mechanism; graphical dynamics.	
	Professor Kerr.	
	Required of Seniors in the Engineering Courses.	

52. Locomotive Mechanism 3

Three hours per week, second term. A study of locomotive boilers, cylinders, frames; valve motion and valve setting; various systems of compound locomotives; air brakes. Text-book: Reagan's Locomotive Mechanism.

Professor Kerr.

Required of Seniors in Mechanical Engineering Course.

53. Specifications I

Recitations and lectures. One hour a week, third term. Text-books: Merrald's Electric Light Specifications; Patent Specifications; Rights and Liabilities of Electric Companies.

Associate Professor Gladson.

Required of second year students, short course, and of Seniors, full course, in Electrical Engineering.

54. Experimental Engineering 2

Two hours per week, first and second terms. Least squares and experimental data; testing machines; measurement of power; friction of lubricants; heating power of fuels; calorimeters; methods of testing steam and gas engines, locomotives, pumping machinery; reports. Text-book: Carpenter's Experimental Engineering. Recitations and practice.

Professor Kerr.

Required of Seniors in the Mechanical Engineering Course.

55. Gas Engines 2

Two hours per week, third term. History and present types of gas and oil engines; explosion in a closed vessel; the gas engine cycle; efficiency and adaptation of the gas engine. Text-book: Robinson's Gas and Petroleum Engines.

Professor Kerr.

Required of Seniors in Mechanical Engineering Course.

56. Contracts and Specifications 2

Two hours per week, third term. Study of recent structures, bridges, foundations, sewers, etc.; specifications. Text-book: Haupt's Specifications and Contracts.

Associate Professor Knoch.

Required of Seniors in the Civil Engineering Course.

57. Thesis 5

Original work planned and executed by the students; subject chosen must be covered by previous work and approved by the instructor. Time allowed, five hours per week, third term.

Professors Kerr, Knoch, and Gladson.

Required of Seniors in the Engineering Courses.

GRADUATE INSTRUCTION IN CIVIL ENGINEERING.

(1) *Framed Structures.*

This will include the computation of stresses, design, and complete working drawings for roofs, bridges, plate girders, trestles (in wood and iron), and a critical study of some of the modern tall buildings.

(2) *Railroad Engineering.*

Including railway management, buildings, and yards.

(3) *Building Material.*

This course will be principally laboratory work on cements, building stones, wood, iron, and steel.

Directed by Associate Professor Knoch.

GRADUATE INSTRUCTION IN MECHANICAL ENGINEERING.

(1) *Engineering Design.*

This will lead to complete drawings and blue prints of steam engines, boilers, pumps, turbines, transmission machinery, or power plants, etc., based on original design and calculation. This will be accompanied by research in related literature.

(2) *Experimental Engineering.*

This will cover actual tests for efficiency of steam engines, boilers, turbines, pumping machinery, etc., combined with a study of important tests of experts.

(3) *Mechanical Refrigeration.*

This will consist of an extended study of the theory and practice of the compression and absorption systems, with visits of inspection.

Directed by Professor Kerr.

GRADUATE INSTRUCTION IN ELECTRICAL ENGINEERING.

These courses will be in the nature of theoretical and practical investigations. The laboratory equipment, which is continually being added to, will furnish means for an extended investigation in the following lines:

- (1) Absolute measurements in electricity and magnetism.
- (2) Photometric standards and measurements.
- (3) Design, construction, and management of electric plants.
- (4) Management, tests, and efficiencies of direct or alternate current generators or motors.

A complete report of work done will constitute a part of the requirements.

Directed by Associate Professor Gladson.

CHEMISTRY AND PHYSICS.

A. E. MENKE, Professor.

W. B. BENTLEY, Associate Professor.

CHEMISTRY.

1. *Agricultural Chemistry* 3
 Recitations twice a week, laboratory work one afternoon throughout the year. This course will be devoted to instruction in the chemistry of soils, fertilizers, and agricultural products. Professor Menke.
 Required of Freshmen in Farmers' Course.
2. *General Inorganic Chemistry* 3
 Lectures twice a week, laboratory work one afternoon throughout the year. Reference books: Roscoe and Schorlemmer's Treatise on Chemistry, and other books. Associate Professor Bentley.
 Required of Sophomores in Science Courses II., III., IV., and V.
3. *General Chemistry* 5
 Lectures and recitations three times, laboratory work two afternoons per week throughout the year. The first and second terms are devoted to the study of inorganic chemistry, third term organic chemistry. Textbooks: Richter, Remsen. Professor Menke.
 Required of Sophomores in the Engineering, Pharmacy, and Farmers' Courses, and of Freshmen in Science, Course I.
4. *Chemical Philosophy* 3
 Three times per week, third term. This course supplements the instruction in theoretical chemistry given in courses 2 and 3. Text-book: Tilden's Introduction to Chemical Philosophy. Reference books: Ostwald's General Chemistry and Meyer's Theoretical Chemistry. Associate Professor Bentley.
 Required of Sophomores in Science, Course I.
5. *Qualitative Analysis.*
 (a) Recitations three times per week, first term. (b) Laboratory work two afternoons per week for engineering students, three afternoons for scientific students throughout the year. The recitations are occupied with the discussion of problems depending on the principles of qualitative analysis. The object of these discussions is to enable the student to understand the methods of separation as well as to be able to follow them practically. In the laboratory a large number of substances both simple and complex are analyzed. Laboratory Manual: Hill's Lecture Notes on Qualitative Analysis. Associate Professor Bentley.
 Required of Sophomores in Science, Course I., and second year students in Pharmacy Course.

6.	<i>Mineralogy</i>	.....	.....	.....	3
	Laboratory work five hours per week, second term. A series of minerals are identified chiefly by blowpipe tests. Foye's Handbook.				
			Associate Professor Bentley.		
	Course 6 is required of Sophomores, Scientific Course I.				
7.	<i>Organic Chemistry</i>	.....	.....	.....	3
	Lectures three times per week throughout the year with laboratory work, if desired. Reference books: Richter's Organic Chemistry and other works on organic chemistry.				
			Associate Professor Bentley.		
	Required of Juniors, Scientific Course I.				
8.	<i>Quantitative Analysis</i>	.....	.....	.....	4
	Laboratory work four afternoons per week. Practice in gravimetric and volumetric analysis. Manual: Thorp.				
			Associate Professor Bentley.		
	Required of Juniors, Scientific Course I.				
9.	<i>Quantitative Analysis</i>	.....	.....	.....	4
	Second Course. Analysis of agricultural and food products.				
			Professor Menke.		
	Required of Seniors, Scientific Course I.				
10.	<i>Technical Chemistry</i>	.....	.....	.....	3
	Three times per week throughout the year. A study of industries having chemical principles and processes for a basis.				
			Professor Menke.		
	Required of Seniors in Scientific Course I.				
11.	<i>Physical Chemistry</i>	.....	.....	.....	3
	Chiefly laboratory work. Determination of molecular weights according to the various methods in common use. Thermo-chemical work, measurement of electric conductivity of electrolytes. Practice with polariscope refractometer, etc.				
			Associate Professor Bentley.		
	Required of Seniors in Scientific Course I.				
12.	<i>Metallurgy</i>	.....	.....	.....	3
	Three times a week throughout the year. Smelting and refining of ores and ore dressing products. Reduction to metals.				
			Professor Menke.		
	Required of Seniors, Scientific Course I., and during the first term, of Seniors in Engineering Courses.				
13.	<i>Assaying</i>	.....	.....	.....	4
	Class meets at convenience of the instructor. Preparing and testing reagents, making cupels, etc., and assaying samples of furnace and mill products.				
			Professor Menke.		
	Required of Seniors in Scientific Course I.				

14. *Graduate Work.*

The professors will direct the work of such competent students as may desire to pursue a course of advanced study and research.

PHYSICS.

1. *General Physics* 5
 Recitations four times and laboratory work one afternoon per week throughout the year. Recitations and experimental lectures on mechanics, sound, heat, light, magnetism and electricity. Text-book: Ganot.
 Professor Menke.

Required of Freshmen in the Engineering and Scientific Courses and of Sophomores in Arts, Courses II., III., IV.

2. *Physical Measurements.*

Laboratory work four hours for scientific, two hours per week for engineering students. Course 2 includes measurements in mechanics, sound, heat, light, magnetism and electricity. Manual: Sabine's Laboratory Course in Physics.

Associate Professor Bentley.

Required of Sophomores in Scientific Course I. and in Engineering Courses.

MATHEMATICS, ASTRONOMY, AND LOGIC.

O. C. GRAY, Professor.

G. W. DROKE, Associate Professor.

The following are the courses for 1895:

1. *Algebra* 2
 Beginning with simultaneous quadratic equations. Text-book: Wentworth.
 Professor Gray and Associate Professor Droke.
 Required of Freshmen in Engineering and Arts, in Science, Course I., and in Normal Course.
2. *Plane and Solid Geometry* 3
 First and second terms. Beginning with Book IV.
 Professor Gray and Associate Professor Droke.
 Required of all Freshmen.
3. *Plane Trigonometry* 3
 Third term.
 Professor Gray and Associate Professor Droke.
 Required of all Freshmen.
4. *Spherical Trigonometry* 2
 First term.
 Professor Gray.
 Required of Sophomore Engineering students and of Sophomores in Arts, Course I.
5. *Analytic Geometry* 3
 Lectures and demonstrations, first and second terms. This course has

two additional hours in the second term. Text-book: Nichols's Analytic Geometry.	
	Professor Gray.
Required of Sophomore Engineering students and of Sophomores in Arts, Course I.	
6. <i>Differential Calculus</i>	5
Third term. Text-book: Osborne.	
	Professor Gray.
Required of Sophomore Engineering students and of Sophomores in Arts, Course I.	
7. <i>Differential and Integral Calculus</i>	3
First and second terms, with lectures and demonstrations. Text-book: Osborne.	
	Associate Professor Droke.
Required of Junior Engineering students and of Juniors in Arts, Course I.	
8. <i>Descriptive Astronomy</i>	3
Third term. Text-book: Newcombe and Holden.	
	Professor Gray.
Required of Junior or Senior Engineering students and of Juniors in Arts, Course I.	
9. <i>Logic</i>	2
First and second terms. Text-book: Jevon-Hill.	
	Professor Gray.
Required of Juniors in Arts.	
10. <i>Mathematical Astronomy</i>	3
First term.	
	Professor Gray.
Elective for Seniors.	
11. <i>Synthetic Geometry</i>	2
One or two terms. Text-book: Dupuis.	
	Associate Professor Droke.
Elective for Juniors or Seniors.	
12. <i>Higher Algebra</i>	3
One or two terms. Text-book: Hall and Knight.	
	Associate Professor Droke.
Elective for Sophomores and Juniors.	
13. <i>Solid Analytic Geometry</i>	2
One or two terms. Text-book: Smith.	
	Professor Gray.
Elective for Juniors and Seniors.	
14. <i>Determinants and Theory of Equations</i>	2
One or two terms. With lectures and demonstrations.	
	Associate Professor Droke.
Elective for Seniors and Graduates.	
15. <i>Differential Equations</i>	2
One or two terms. Text-book: Johnson.	
	Associate Professor Droke.
Elective for Seniors and Graduates.	

BIOLOGY AND GEOLOGY.

PROFESSOR MCNEILL, ASSOCIATE PROFESSOR MEEK.

BIOLOGY.

1. *General Biology* 3

Recitations twice, and laboratory two hours per week. A brief study of typical plants and animals with reference to structure, development, and relationship. This course is introductory to both Botany and Zoölogy. Text-books: Parker's Biology; laboratory manual, Boyer's Practical Biology.

Associate Professor Meek.

Required of Freshmen in Science, Courses II., III., IV., and V., and of Sophomores in Science, Course I.; alternative with Botany 1 or Zoölogy 1 for Freshmen in Arts Courses and in Normal Course.

BOTANY.

1. *Systematic Botany* 3

One lecture a week for the first term, with four hours laboratory work. Six hours a week laboratory work for the second and third terms. Designed to give students a general knowledge of the classification of plants and a more particular acquaintance with the seed plants and ferns of Northwest Arkansas. Text-book: Gray's Manual of Botany.

Professor McNeill.

Required of Sophomores in Science, Courses II., III., IV., V.; alternative with Biology or Zoölogy 1 for Freshmen in Arts Courses and in Normal Course.

2. *General Morphology of Plants* 3

Recitations twice, laboratory work two hours per week, first and second terms. This course must be preceded by course 1. It should precede course 4, but does not do so necessarily. Text-book: Goebel's Outlines of Classification.

Professor McNeill.

Course 2 is offered only in even years, and is required of Juniors in Science, Course II.; alternative with course 4 for Juniors in Science, Courses II. and III.

3. *Bacteriology* 3

One recitation and four hours a week laboratory work for the third term. Text-book: Hueppe's Methods of Bacteriological Investigations.

Professor McNeill.

Required of Juniors or Seniors in Science, Course II., and alternative with course 4 for Juniors in Science, Courses III. or IV.

4. *Vegetable Histology* 3

Laboratory work six hours per week. A systematic study of the tissues of vascular cryptogams and phanerogams. Students are taught the use of stains and reagents and methods of hardening, mounting, and sectioning vegetable tissues. Laboratory guide: Strasburger's Practical Botany.

Professor McNeill.

Course 4 is offered only in odd years, and is alternative with courses 2 and 3. Required of Juniors and Seniors in Science, Course II., alternative with 2 and 3, for Juniors in Science, Courses III. and IV.

5. Advanced Work in Histology or Systematic Botany 3
Required of Seniors in Science, Course II.
Professor McNeill.

ENTOMOLOGY.

1. *General Entomology* 3
 Recitations twice, laboratory work two hours per week. Designed to give a general knowledge of the structure, habits, and classification of insects and a more particular knowledge of the orders Orthoptera and Lepidoptera. Text-book: Packard's Elements of Entomology. Laboratory guide: French's Butterflies of the Eastern United States, and other manuals.

Required of Juniors in Science, Course II.

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|---|----------------------------|---|
| 2. | <i>General Entomology</i> | 5 |
| This course is the same as 1, with four hours per week additional laboratory work. | | |
| | Professor McNeill. | |
| Required of Juniors in Science, Course III. | | |
| 3. | <i>Economic Entomology</i> | 3 |
| This course is a continuation of 2, and must follow it. The systematic work for each student will be restricted to one order or family of which he will be expected to make a special study. Special attention will be given to breeding and rearing of insects and to working out the life histories of those species that are little known. | | |
| | Professor McNeill. | |

6000-000

1. *General Zoology* 3
 One recitation and four hours laboratory work per week. A general course in animal morphology and systematic zoölogy. The systematic work will be restricted to vertebrates. Text-book: Packard's Zoölogy. Laboratory guide: Jordan's Manual of Vertebrates.

Associate Professor Meek.

Required of Sophomores in Science, Courses II., III., IV., and V.; alternative with

2. *Vertebrate Anatomy* 3
Recitations twice per week and dissection of typical vertebrates. Text-book: Wiedersheim's Anatomy of Vertebrates.
Associate Professor Meek.
Required of Juniors in Science, Course IV.

3. *Neurology*.
Lectures twice a week, third term.
Associate Professor Meek.

Periodicals Library, University of British Columbia

4. *Animal Histology* 6
 Two recitations and eight hours in the laboratory per week, first term.
 Open only to students who have taken course 2. Text-book: Schafer's
 Essentials of Histology. Professor McNeill
 Required of Seniors in Science, Course IV.
5. *Embryology* 6
 Recitations three times, and laboratory work six hours a week, second
 and third terms. Open only to students who have taken course 4.
 Text-book: Foster and Balfour's Elements of Embryology. Professor McNeill.
 Required of Seniors in Science, Course IV.
6. *Ichthyology*.
 Lectures once, and laboratory work four hours a week. Advanced work
 in the study of fishes. Associate Professor Meek.
 Elective.

GEOLOGY.

1. *General Geology* 3
 Recitations and lectures, three times a week. Structural, dynamical, and
 historical Geology, with occasional field excursions. Text-book: Le
 Conte's Elements or Dana's Manual. Associate Professor Meek.
 Required of Juniors in Science Courses; alternative with course 3 for Juniors in Science,
 Course I.
2. *Practical Geology* 2
 Field work first and second terms, laboratory practice third term four
 hours per week. Field work will consist in making geological sections
 and geological maps, using United States Geological Survey methods.
 Laboratory practice will consist of a study of building and ornamental
 rocks. Text-book: Merrill's Building and Ornamental Rocks of the
 United States. This course will accompany or follow courses 1 or 3.
 Associate Professor Meek.
 Required of Juniors in Science, Course V.
3. *Economic Geology* 3
 Recitations and lectures, three times a week: Ore deposits and valuable
 rock materials. Field work and laboratory practice two hours per week.
 This course is designed for engineering students. Text-book: Tarr.
 Associate Professor Meek.
 Required of Juniors in Civil Engineering and of Seniors in Science, Course V.; alterna-
 tive with course 1 for Juniors in Science, Course I.
4. *Petrography* 3
 Lectures and recitations once a week, laboratory practice four hours a
 week, first and third terms. Text-book: Iddings.
 Associate Professor Meek.
 Required of Seniors in Science, Course V., or alternative with course 5.

5. *Palontology* 3
 Recitations and lectures once a week, laboratory four hours per week.
 Fossils studied will be selected each year. In 1895 the class will make
 a special study of neighboring coal flora.

Associate Professor Meek.

Required of Seniors in Science, Course V.; alternative with course 4.

PSYCHOLOGY AND ETHICS.

PRESIDENT BUCHANAN.

The course offered in these subjects consists of recitations, lectures, and full and free discussions by the members of the class. In connection with a careful examination of the views and opinions of leading thinkers, students are encouraged to study their own mental phenomena and to subject to the test of individual consciousness the various theories which come under investigation. Due attention is given to the recognized contributions of modern Physiology to Psychology. As introductory to this part of the subject, the professor of Biology gives a course of lectures with accompanying laboratory work in Neurology, which all students whose course includes Psychology, are required to attend during the third term of the Junior year.

1. *Psychology* 3
 Three times a week, first and second terms.
 Required of Seniors in Arts, Courses I., III., IV. and of Seniors in Science, Courses II., III., IV. and V.
2. *Ethics* 2
 Twice a week, third term.
 Required of Seniors who take Psychology.
3. *Political Economy* 2
 Lectures and recitations twice a week. Attention is specially directed to the leading questions of to-day, such as public finance, tariff, railway and other corporate industries, etc.
 Required of Juniors in Arts.

ENGLISH AND MODERN LANGUAGES.

R. H. WILLIS, Professor.

IDA PACE, Associate Professor.

PROFESSOR LEVERETT, Acting Assistant.

PROFESSOR FUTRALL, Acting Assistant.

For the lower classes in each language the aim is to acquire a practical and accurate use of the language as it exists to-day; and the only proper basis for this is an exact knowledge of grammatical forms and of the elementary principles of syntax. In the higher classes the languages are studied historically and philologically with a view to general culture and to the best mental discipline.

Every student has the opportunity to become thoroughly acquainted with the English language, to learn to speak and write it correctly and forcibly. A course of parallel reading is prescribed for each class, and an extensive course of general reading is published in the Library for the benefit of all. It is carefully selected and graded, and affords much variety in style and matter.

In the foreign languages the first and constant aim is a correct pronunciation and excellence in translation and composition; but the syntactical and etymological relations existing between these languages and the English are emphasized, and they are thus constantly contributing to the student's knowledge of English and to his power of expression. Besides the above instruction there are, in each foreign language, additional recitations devoted wholly to conversation and sight reading.

The following are the courses for 1895:

I. *Rhetoric and English Literature* 3

Raub's Rhetoric; Meiklejohn's History of English Literature; nine essays (chiefly narrative and descriptive) criticised and corrected by the instructor and copied by the student; thorough drill in English metres. For reference: Bain, Blair, Clark, Hart, Hill, Genung, Kames.

Professor _____.

[In 1896 Meiklejohn's English Language (complete) with essays, as above.]

Required of all Freshmen.

2. *English and American Prose Writers* 2
 Study of representative authors with rhetorical analysis and criticism; three essays. *First Term:* Bacon, Addison, Johnson. *Second Term:* Burke, De Quincey, Carlyle. *Third Term:* Thackeray, Hawthorne. Text-book: Garnett's English Prose. For reference: Minto, Genung, Hunt, Arnold, Morley, Shaw, Taine, Welch, and others.
 Miss Pace.
 [In 1896 the authors will be: *First Term:* Milton, Steele, Swift. *Second Term:* Goldsmith, Scott, Macaulay. *Third Term:* Ruskin, Irving.]
 Required of Sophomores in Arts and Engineering and of Sophomores in Science, Courses II., III., IV., and V. This course may be taken for two consecutive years.
3. *English and American Poets* 2
 General survey of period from Restoration to Tennyson, with critical study of representative poets; three essays. *First Term:* Dryden, Pope, Gray. *Second Term:* Burns, Coleridge, Scott, Byron. *Third Term:* Poe, Bryant, Longfellow, Tennyson. Hale's Longer English Poems and other critical editions. For reference and topical study: Brooke, Hallam, Lowell, Shaw, Taine, Ward, and others.
 Miss Pace.
 [In 1896 different selections or different poets of this period will be studied.]
 Required of Juniors in Arts, Course II. This course may be taken for two consecutive years.
4. *Middle English and Early Modern English* 2
 Literary History of period from Chaucer to Milton; reading of representative authors with historical, philological, and literary criticism; three essays. Morris's Chaucer, Percival's Spencer, Sprague's Milton, Rolfe's plays of Shakespeare, and other annotated editions. For reference: Bucknell, Coleridge, Dowden, Gervinus, Hazlitt, Hudson, Ulrici, and others.
 [In 1896 there will be different readings from the same authors]
 Professor
 Required of Juniors in Arts. This course may be taken for two consecutive years.
5. *Anglo-Saxon and Middle English* 3
 Readings from the Anglo-Saxon Gospels and Chronicles; selections from Alfred, Aelfric, Caedmon, and later writers. Bright's Anglo-Saxon Grammar and Reader (120 pages); Morris's Specimens of Early English, Part I.; Ten Brink's Old English Literature (selections). For reference: Cook's First Book in Old English, Cook's Sievers' Grammar of Old English, March's Anglo-Saxon Grammar (syntax), Skeat's Etymological Dictionary.
 Professor Willis.
 Required of Seniors in Arts, Course II. The readings will be mostly changed for 1896.
6. *English Philology* 1
 Lounsbury's English Language (revised edition) with parallel readings

and lectures. For reference and topical study: Skeat's Principles of English Etymology, Sweet's Grammar (historical part), Earle, Morris, Peile, and others.

Professor Willis.

Required of Seniors in Arts.

7. *Advanced Anglo-Saxon and English Philology* 2

Ten Brink's Old English Literature (selections); Cook's Sievers' Grammar, and one of the following courses of reading with critical and philosophical study: (a) Alfred's Orosius (Sweet); Judith (Cook); Elene (Kent); or (b) Exodus and Daniel (Hunt); Beowulf (Harrison and Sharpe). For reference: Bosworth's Anglo-Saxon Dictionary, Skeat's Etymological Dictionary, Mayhew's Synopsis of Old English Phonology, Sweet's Handbook of Phonetics. Kluge's Etymological Dictionary, Balg's Glossary of Gothic.

Professor Willis.

For graduate students who have completed 4, 5 and 6.

8. *Gothic and Germanic Philology* 3

For students who wish to study English or German historically. Special attention is given to the phonological relations of Gothic to earlier Indo-European languages and to later Germanic languages. Balg's Translation of Braune's Gotische Grammatik; Ulfila (Heyne or Balg); Douse's Introduction to the Study of Gothic. For reference: Wright's Primer of Gothic; Balg's Glossary; Kluge's Etymological Dictionary; Mayhew's Synopsis; Sweet's Handbook; Paul and Braune's Grundriss; Brugmann's Comparative Grammar.

Professor Willis.

For graduate students who have completed 4, 5 and 6.

9. *English Literature of the Nineteenth Century* 3

Critical study of the life and works of Scott, Byron, Macaulay, Thackeray, Carlyle, and Tennyson.

Miss Pace.

For graduates who have completed 2, 3 and 4.

10. *American Literature* 3

Critical study of the life and works of Irving, Poe, Hawthorne, Emerson, Longfellow, and Sidney Lanier.

Miss Pace.

For graduates who have completed 2, 3 and 4.

NOTE.—At present not more than one of the above graduate courses will be given in any one year to resident students.

GERMAN.

1. *Modern German, Elementary* 3

Thomas's Grammar with composition; Brandt's Reader (150 pages) containing selections from the simple prose of Grimm, Niebuhr, and late authors, and from the lyrics of Goethe, Schiller, Heine, Uhland, and other poets; three lyric gems memorized.

Miss Pace.

Required of Juniors in Arts, Course II., and of Juniors in Science. A separate course of sight reading and conversation may be given once a week.

- 2 *Schiller and German History* 3
 Schiller's Piccolomini; Schrakamp's Deutsche Geschichte; Bernhardt's Deutsche Litteraturgeschichte; grammar and composition continued: original composition.
 Professor Willis.
 Required of Seniors in Arts, Course II., and of Seniors in Science.
- 3 *Lessing and Goethe* 2
 Lessing's Emilia Galotti; Goethe's Goetz von Berlichingen and prose selections (Hart). For reference in 2 and 3: Scherer's German Literature; Whitney's and Brandt's Grammars; Behaghel's Historical Grammar; Jagemann's Syntax; Heath's Dictionary or Adler's Quarto.
 Professor Willis.
 Required of Seniors in Arts, Course II., and of Seniors in Science, Course I.
- 4 *German at Sight and Conversation* 2
 Stern's Studien und Plaudereien II.; Auerbach's Brigitta; Heyse's L'Arrabiata; Hillern's Höher als die Kirche.
 Professor Willis.
 Required in connection with 3 or 4.
- 5 *Graduate Courses in German* 3
 One of the following courses of one year each may be taken at the professor's convenience: (1) Life and Works of Goethe, (2) of Schiller, (3) of Lessing, (4) Old and Middle High German, (5) Gothic and Germanic Philology.
 For graduates who have completed 2, 3 and 4.
 Note.—2, 3 and 4 have different Readings in 1896, and each may be taken for two consecutive years.

FRENCH.

- 1 *Modern French, Elementary* 3
 Edgren's Grammar with composition; Whitney's Reader, containing simple prose tales and extended selections from Daudet, Dumas, Souvestre, Michelet, Lamartine, and other nineteenth century authors, and a few lyrics from Victor Hugo, Béranger, Gautier, and other poets.
 Miss Pace.
 Required of Freshmen in Arts, Course II., of Freshmen in Science, Courses II., III., IV., V., and of Sophomores in Science, Course I. A separate course of sight reading and conversation may be given once a week.
- 2 *Nineteenth Century Writers, Advanced* 2
 Souvestre's Un Philosophe sous les Toits; Victor Hugo's Ruy Blas; Duval's Littérature Française; grammar and composition continued. For reference in 2 and 3: Whitney's Grammar; Harrison's French Syntax; Brachet's Historical Grammar; Saintsbury's History of French Literature and other larger works. Dictionaries: Spier's and Surenné's Quarto, Heath's, The Classic.
 Miss Pace.
 Required of Sophomores in Arts, Course II., of Sophomores in Science, Courses II., III., IV., and V.

3 *The French Classic Drama* 3

Critical study of representative authors: Corneille's Cid; Racine's Esther; Molière's Bourgeois Gentilhomme and Le Misanthrope; grammar and composition continued; original composition.

Miss Pace.

Required of Juniors in Arts, Course II.

4 *French at Sight and Conversation* 2

Worman's Second Book; Fleury's Histoire de France; George Sand's La Mare au Diable.

Miss Pace.

Required in connection with 2 or 3.

5 *Graduate Courses in French* 3

One of the following courses of one year each may be taken at the professor's convenience: (1) Life and works of Molière, (2) of Corneille and Racine, (3) of Voltaire, (4) of Victor Hugo, (5) Old French.

For graduates who have completed 2, 3 and 4.

NOTE.—2, 3 and 4 have different readings in 1896, and each may be taken for two consecutive years.

SPANISH.

1 *Modern Spanish, Elementary* 3

Edgren's Spanish Grammar with composition; Worman's First Spanish Book; Knapp's Spanish Readings, containing extracts from Fernan Caballero, Selgas, Lafuente, Valera, and other authors.

Professor Willis.

Allowed as a substitute for French 2 and 4, or for French 3. Ordinarily this class will not be formed for less than five students. A separate course of sight reading and conversation may be given once a week.

2 *The Spanish Classic Writers* 3

Selections from Don Quixote; Lope's La Estrella de Sevilla; Calderon's El Principe Constante; Conant's Spanish Literature; grammar and original composition. For reference: Knapp's Grammar; Sismondi's Literature; Clarke's Spanish Literature; Velasquez's Quarto Dictionary.

Professor Willis.

Allowed as a substitute for French 3.

3 *Spanish at Sight and Conversation* 2

Worman's Second Book; Colmena Española; Caballero's La Familia de Alvareda.

Professor Willis.

Allowed as a substitute for French 4.

ITALIAN.

1 *Elementary Course* 3

Grandgent's Grammar with composition; Italian Principia II. (readings from standard authors selected for beginners); Sonzogno's Letteratura Italiana.

Elective at the professor's convenience, but will not be taught for less than five students.

2. *Advanced Course* 3

Nota's *La Fiera*; Ongaro's *Rosa dell' Alpi*; Tasso's *Gerusalemme Liberata*; grammar and composition continued. For reference: Cuore's Grammar; Sismondi's Literature. Dictionary: Millhouse, or Baretti. Elective at the professor's convenience.

LATIN.

J. C. FUTRALL, Professor.

In this department there are five courses:

1. *Sallust, Cicero and Virgil* 3

An accurate knowledge of the Latin forms is insisted upon; exercises in prose composition taken from Gildersleeve's Exercise Book; Roman History.

Required of Freshmen in Arts.

2. *Livy, Cicero, and Horace* 3

Systematic study of the grammar; exercises in prose composition taken partly from Gildersleeve's Exercise Book, partly from the authors read in class; the Latin metres and rhythm; sight reading; parallel reading may be assigned from the authors read in class; Roman Literature.

Required of Sophomores in Arts.

3. *Junior Course* 3

The object of this course is to give the student greater facility in turning English into Latin and Latin into English. The study of the Grammar will be continued and exercises for translation into Latin, based on the text, will be prepared by the Professor. Sight reading will be continued and parallel reading will be assigned from which the translations for examination will be taken. Roman Literature. The authors read in '95 will be Cicero, Tacitus, Livy, Horace.

Required of Juniors in Arts, Course III.

4. *Senior Course* 3

This course is a continuation of Course 3. The authors read in '95 will be Cicero, Juvenal, Seneca, and Pliny. Translation at sight of idiomatic English into idiomatic Latin. The translations for examination will be taken partly from the parallel reading assigned, and partly from Latin that the class has not seen.

Elective for students who have completed Course III.

5. *Graduate Course* 3

Students who have completed course 4 may take, at the Professor's convenience, a graduate course, which for '95 will consist of the Life and Works of Plautus, with a critical study of the archaic period of the language.

Text-books: Gildersleeve's Grammar (Lodge); White's English Latin Lexicon; Harpers' Latin Lexicon; Liddell's History of Rome; Bender's Roman Literature; Crutwell's Roman Literature; Gildersleeve's Exercise Book; any approved edition of the Latin authors may be used except when certain editions are prescribed.

GREEK.

C. H. LEVERETT, Professor.

The subjects taught in this department are the Greek Language and Literature and the History of Greece. Authors are read in the order of their difficulty, and neatly written translations are required at stated intervals. The grammar and idioms of the language are carefully studied and compared with those of English and other languages.

Marked attention is paid to the rendering of English into Greek and correct accentuation is required. In the lower classes the best manuals for Greek composition are used; for the higher classes carefully graded exercises are prepared by the professor.

Due prominence is given to the study of Greek metres and to sight reading. The grammars are made the basis of this instruction, but fuller explanation is given in lectures.

Goodwin's Grammar (last edition), with the method of pronunciation recommended by the American Philological Association, is used throughout the course. The courses for 1895 are as follows.

1.	<i>Elementary Greek</i>	3
	Frost's Greek Primer; Goodwin's Grammar; one book of Xenophon's Anabasis (Harper and Wallace).	
	Required of Freshmen in Arts, Course III.	
2.	<i>Xenophon and Lysias</i>	3
	Three books of Xenophon's Anabasis; three orations of Lysias; Jones's Prose Composition with Goodwin's Grammar.	
	Required of Sophomores in Arts, Course III.	
3.	<i>Greek History and Geography</i>	I
	Smith's Smaller History of Greece; Ginn's Ancient Atlas.	
	For reference: Cox, Curtius, Grote.	
	Required of Sophomores or Juniors in Arts, Course III.	

4. *Herodotus and Homer* 3
 Selections from the 6th, 7th, and 8th books of Herodotus (Mather); four books of Homer's Iliad; Jones's Prose Composition (completed); sight reading.
 Required of Juniors in Arts, Course III.
5. *Demosthenes and Plato* 2
 Four orations of Demosthenes, or the Oration on the Crown; the Euthyphro, Menexenus, and Gorgias of Plato; sight reading.
 Elective for students who have completed 1 and 2.
6. *Thucydides and the Drama* 3
 The first book of Thucydides (Morris); the Medea of Euripides; the Antigone of Sophocles; Greek Literature (Jebb); sight reading; original composition with Grammar.
 Elective for students who have completed 1, 2 and 4, or 5.
7. *The Drama and Epic Poetry* 2
 The Ajax of Sophocles; the Prometheus of Eschylus; rapid reading of Homer's Iliad, twelve books.
 Elective for students who have completed 1, 2 and 4, or 5.
8. *Hellenistic Greek* 2
 The critical study of the New Testament in the original Greek, with comparison of the translations of Wycliffe, Tyndale, King James, and the revised version of 1881; Westcott and Hort's Text with Green's Vocabulary. For reference: Scrivener, Bosworth and Waring, Bloomfield, and others.
 This course is primarily for students interested in theology. Elective for students who have completed 1 and 2, and for others at the discretion of the professor.
 BOOKS OF REFERENCE FOR THE ABOVE COURSES:—Liddell & Scott's Greek-English Lexicon (7th Oxford Edition); Yonge's English-Greek Lexicon; Classical Dictionary; Classical Atlas; Goodwin's Moods and Tenses (last edition); Hadley's and Curtius's Grammars.
9. *Graduate Courses in Greek.*
 One of the following courses of one year each is offered to graduate students for 1895: The life and complete works of (1) Sophocles and Æschylus, (2) of Euripides, (3) of Aristophanes, (4) of Homer, (5) of Herodotus and Thucydides, (6) of Demosthenes, (7) of Plato (one-half of his works), (8) of Aristotle (one-half of his works). With each of these courses there is collateral work in history, archaeology, etc.
- NOTE:—In 1896 there will be different readings in 4, 5, 6, 7, and 8, and any of these courses may be taken for two consecutive years. By comparison with announcements of past years, it may be seen that the University now offers more facilities than ever before for the study of Greek.

HISTORY AND PEDAGOGY.

J. F. HOWELL, Professor.

HISTORY.

1.	<i>Constitutional History</i>	2
	Text-book: Fiske's Civil Government; lectures and reading.	
	Required of Freshmen in Arts, Course IV., and of Sophomores in the Normal Course.	
2.	<i>General History</i>	3
	Text-book: Myers' General History; collateral reading.	
	Required of Sophomores in Arts and Science.	
3.	<i>English History</i>	1
	With special reference to the development of the English language and literature. Lectures and recitations on topical reading.	
	Required of Sophomores in Arts, Courses II. and III.	
4.	<i>Ancient History</i>	2
	In the light of recent discoveries and investigations; Egypt and Israel, Greece and Rome. Lectures and recitations on assigned topics.	
	Required of Juniors in Arts, Course IV.	
5.	<i>Ecclesiastical History</i>	2
	Outlines of church history from the rise of Christianity to the present time. Lectures and recitations on assigned reading.	
	Elective for Seniors and Juniors who have passed in course 2.	
6.	<i>European History</i>	2
	From the fall of Rome to the present time. Lectures, recitations on assigned reading, and topical research.	
	Required of Seniors in Arts, Courses II. and IV.	
7.	<i>American History</i>	2
	From the earliest explorations to the present time. Lectures, recitations on assigned periods, and topical research.	
	Required of Seniors in Arts, Course IV.	

PEDAGOGICS.

1.	<i>Pedagogy</i>	2
	Text-book: White's Elements of Pedagogy, with lectures and collateral reading.	
	Required of Freshmen in the Normal Course.	
2.	<i>School Management</i>	3
	Three times a week first term and once a week second term. Text-book: Baldwin's School Management, and collateral reading.	
	Required of Sophomores in the Normal Course.	

3. *History of Education*. 2
 Twice a week, second and third terms. Text-book: Painter's History of Education, with collateral reading.
 Required of Sophomores in the Normal Course.
4. *School Law* I
 Once a week third term. Decisions of State Supreme Courts on questions relating to the rights and duties of school officers, parents, and children. The school laws of Arkansas. Text-books: Burke, The Law of Public Schools, and the text of the Arkansas school laws.
 Required of Sophomores in the Normal Course.

PHARMACY.

—————, Instructor.

1. *Theoretical Pharmacy* 3
 Elementary course. Lectures and recitations three times per week throughout the year. The history and development of pharmacy. The pharmacopœia and dispensatories will receive detailed attention.
 Required of first year students, Course in Pharmacy.
2. *Theoretical Pharmacy* 3
 Advanced course. This course deals chiefly with the consideration in detail of the pharmacy of organic drugs. It embraces a careful study of every important galenical preparation, with method of preparation, physical characteristics, reactions, etc.
 Required of second year students, Course in Pharmacy.
3. *Practical Pharmacy* 2
 First course. Laboratory work two afternoons per week. The course includes practice in dry grinding and powdering, comminution, contusion, trituration, elutriation and levigation, heat and its uses in pharmacy, solutions, dialysis, maceration, precipitation, etc.
 Required of first year students, Course in Pharmacy.
5. *Practical Pharmacy* 2
 Second course. Preparation of pills, solutions, mixtures, cachets, ointments, plasters, suppositories, powders, etc. Study of prescriptions, incompatibility, solubility, etc.
 Required of second year students, Course in Pharmacy.

MATERIA MEDICA.

This subject occupies two years of instruction and is taken up in the following order: Roots, rhizomes, tubers and bulbs; woods, barks, herbs, and flowers; leaves and leaflets, fruits, seeds, miscellaneous.
 Required both years in Pharmacy Course.

MILITARY SCIENCE AND TACTICS.

1st Lieut. Elias Chandler, 16th U. S. Infantry, Professor.

1. *Practical Work* 2

Three hours per week. In school of the soldier, squad, platoon, company, and battalion, close and extended order; ceremonies of guard mounting, dress parade, inspection, and review; artillery drill in the school of the cannoneer; camping, guard duty, target practice, and signaling. In this work the cadet officers act as instructors, thus putting into practice the knowledge gained in previous years.

Required of all male students over 15 years of age.

2. *Recitations and Lectures* I

One hour per week. Infantry Drill Regulations (U. S. Army, Part I); Manual of Guard Duty (U. S. Army).

Required of male Freshmen.

3. *Recitations and Lectures* I

One hour per week. Infantry Drill Regulations (U. S. Army, Part II.); Rifle Firing (Blunt).

Required of male Sophomores.

4. *Recitations and Lectures* I

One hour per week. Field Fortifications and Entrenchments (Wheeler); Military Signaling (Morton).

Required of male Juniors.

5. *Recitations and Lectures* I

One hour per week. Service of Security and Information (Wagner); Military Law (Winthrop).

Required of male Seniors.

ELOCUTION.

JESSIE L. CRAVENS, Instructor.

The object of this department is a harmonious development of both mind and body along those lines of culture that lead to power and refinement of speech and action.

Art predetermines her effects. To know what and how to do precedes the doing. A complete course of technical drill lays the foundation for advanced work in expression. An artistic presentation can come only through a perfected technique, and that is attained only by constant practice in voice exercises, articulation, and action. The true state of the soul may then be expressed through the trained body;

vital, through voice; mental, through articulatory speech; emotive, through action.

The course of instruction comprises a thorough training in the essentials of expression.

1. *Physical Training.*

The course includes thorough drill in:

1. Light Gymnastics,
To promote health,
To give vigor and tone.
2. Aesthetic Gymnastics,
(In accordance with the laws of Delsarte)
For the attainment of grace, precision, and harmony in action.

2. *Voice Culture.*

1. Respiration.

To breathe naturally. Economy of breath.

Drill in deep, effusive, expulsive and explosive forms, as a basis for voice work.

2. Voice.

Exercises for the production and cultivation of open, pleasing, and musical tones. To avoid shrill and loud tones.

3. Articulation.

To acquire a correct use of the articulatory organs. Exercises upon elementary sounds, separately and in combination. Syllabification, accent, and pronunciation. Defects of speech.

3. *Expression.*

Modulation, inflection, emphasis, pitch, quantity, and movement. Qualities. Application of tone effects. Light and shade in tone. Transitions. Pause effects. Facial expression. Action and repose. Naturalness. Clearness.

To analyze the sentence for the thought and feeling contained therein, and to produce it in correct and artistic form.

TEXT-BOOKS.

The books in use and for reference are Southwick's Elocution and Action, Stebbins' System of Expression, Adams' Gesture and Pantomimic Action, Werner's Readings and Recitations, etc.

Instruction is given chiefly by lecture, no special text being strictly adhered to, but always supplemented by the *voice of the teacher*.

This department is open to all students in the Collegiate and Sub-Freshman classes. *Twice a week for each class.*

INSTRUMENTAL MUSIC.

BELLE WILSON, Instructor in Instrumental Music.

PIANOFORTE COURSE.

FIRST GRADE.

Elementary exercise; Duets and studies from Lebert & Stark's Pianoforte School, Part I. Loeschhorn Op. 38 and 56, and Koehler Op. 50.

SECOND GRADE.

Lebert & Stark's Pianoforte School, Part II. Clementi's Sonatinas. Heller's Studies, Op. 47, Loeschhorn Op. 66, Bertini Op. 29 and 32, and Czerny's School of Velocity.

THIRD GRADE.

Lebert & Stark's Pianoforte School, Part III. Loeschhorn Op. 67, Kuhlau's Sonatinas, Bach's Inventions and Czerny Op. 740.

FOURTH GRADE.

Heller's Art of Phrasing, Moscheles Op. 70 and 73, Kullak's Octave Studies, Clementi's Gradus ad Parnassum and Haydn's Sonatas.

FIFTH GRADE.

Cramer's Studies, Bach's Preludes and Fugues, Koehler Op. 120, Chopin Op. 25, and Beethoven's Sonatas.

Selected sections of Plaidy's Technics and Mason's Touch and Technics used all through the course.

TERMS:

Twelve weeks—two lessons per week.

Pianoforte and Organ	\$12.00
Thorough Bass and Harmony	5.00
Use of Piano one hour every day.....	2.35

Tuition payable in advance.

No deduction will be made on account of absence from recitations except in case of prolonged sickness.

VOCAL MUSIC.

MRS. A. D. DAVIS.

True cultivation of the voice consists in the development of pure tone, and its easy, natural use and control in singing.

Attention is given to respiration as an art applicable to singing; position of mouth and tongue, and control of the face in singing; emission of voice on vowels; exercises for uniting the registers; practice on sustained tones in the entire range of the voice; exercises in agility and velocity; exercises in articulation of consonants and vowels; study of delivery and expression; the formation of good style, etc.

COURSE OF STUDY.

Röder's Fundamental Vocal Exercises, Concone, Nava, Abt, Sieber, Panseron, Panofka, and other technical works; songs of the English, Italian, French, and German Schools; church music; study of the opera and oratorio. The course may be completed in three or four years or longer time, according to the ability and energy of the student.

TERMS:

Twelve weeks in vocal culture, two hours per week	\$12.00
Tuition payable in advance.	

FINE ART.

EFFIE VIRA HART, Instructor.

Patience and perseverance, rather than talent, are the qualifications essential to success.

Students are taught from the beginning to draw from simple objects and plaster casts. No ruling or measuring is permissible, and more attention is given to the training of the eye than of the hand. The student must have a good understanding of form, perspective, and light and shade before he can use color. He may then work in oil, water color, or pastel, or all three, if it be desired, though all students are required to work in black and white a part of the time.

Copying is discouraged. A true student of art is a student of nature. He is not taught to make pictures, but to make studies true to life.

Attention is given to outdoor sketching.

TERMS:

Twelve weeks	\$10.00
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Tuition payable in advance.

Students may work five days in the week, if convenient.

SCHEDULE OF COLLEGIATE RECITATIONS.

Figures to the left show the term during which the subject is studied, those to the right show the number of the course

	8:45 9:45.	9:45 10:45.	10:45 11:45.	11:45 12:45.	1:30 2:30.	2:30 3:30.
SENIOR.	German 2, T., Th., S. German 2, W., F. Mil. Science, M.	German 4, T., Th. Greek 8, L., Th. Psychology, M., W., F.	Anglo-Saxon, T., Th., S Greek 7, M., W. Metallurgy, T., Th., F.	Am. History, M., Th. Eur. History, T., F. Geology, 3 & 4, M., W., F. Tech. Chemistry, T., Th., S. Zoology 4, T., Th., S.....	English Philology, W., . Greek 6, T., Th., F.	Latin, M., W., F. Mathematics, Mathematical Astronomy, Botanical Laboratory, Chemical Laboratory, Geological Laboratory, Zoological Laboratory.
JUNIOR.	Geology, 1, M., W., F German, T., Th., S. Greek 5, T., Th. 1 and 2 Logic, W., F	Astronomy, M., T., Th., F Botany 2, W., F English 4, W., S 1 & 2 Math., M., T., Th., F Zoology 2, T., Th	Entomology 1, W., F French 3, L., Th., S. Latin, M., T., Th Organ Chem., T., Th., S Surveying, T., Th	Chemistry 5, T., W., Th English 3, T., F Greek 4, Th Greek History, F Md. Science, M Spanish 2, W., Th., S 2 Mineralogy, M.—F	Greek 4, M., W History 4, M., F. Polit. Economy, T., Th. Spanish 3, F	Spanish 3, W. Field Work, T., W. Botanical Laboratory, T. Chemical Laboratory, M.—F. Geological Laboratory, T., W., Th., S. Zoological Laboratory, M., W., F. Greek, M., T., F. Spanish, T., Th., F.
SOPHOMORE.	French 2, W., F Latin, T., Th., S Materia Medica, M., W., F Normal Studies, M., W., F Toxicology, T., Th., S 1 Vet. Anatomy, M., W., F 2 & 3 Vet. Science, M., W., F	Agriculture, T., Th Const. History, T., Th English, W., F French History, S French 4, T., Th Zoology 1, S	Biology 1, T., Th Chemistry 2, M., W English, W., F Gen. History, T., Th., S Pharmacy, T., Th., S Physics 2, F Stock Breeding, M., W., F Surveying, T., Th.....	Botany 1, T., Th 3 Chem. Philos., M., T., Th 2 & 3 Day Hus., M., T., W., F 1 Horticulture, M., W., F Mathematics, M — F M.I. Science, S Physics 1, M., T., Th., F Physics 2, F.....	Botany 1, T., Th Mathematics, M.—F Mil. Science, W. Pedagogy, W., S Physics, t., M., T., Th., F Pharmacy, M., W., F	Drawing, Field Work, T., W. Biological Laboratory, Botanical Laboratory, T., Th. Chemical Laboratory, M.—F. Physical Laboratory, W. Physics 2, Th. Zoological Laboratory, M., F. French, T., Th., F English, T., Th., F. Drawing, Biological Laboratory, M. Botanical Laboratory, T., Th. Chemical Laboratory, M., F. Physical Laboratory, W. Zoological Laboratory, M., F. Shop or Farm,
FRESHMAN	Engineering 1, M., W.. English, M., W., F. English, T., Th., S. Latin, M., W., F Mathematics, M.—F. Shop or Farm.	Chemistry 3, M., W., F.... Const. History, T., Th .. French, T., Th., S Greek, M., W. F. Latin, M., W., F Zoology 1, S.....	Agricul. Chem., M., W., F Biology 1, T., Th. French, M., W., F... Mathematics, M.—F Mil. Science, S..... Pharmacy, M., W., F	Botany 1, T., Th Mathematics, M.—F Mil. Science, W. Pedagogy, W., S Physics, t., M., T., Th., F Pharmacy, M., W., F		

NOTE.—The Schedule for the Senior and Junior Engineering Students will be published at the beginning of each term.

THE SCHOOL OF AGRICULTURE.

FACULTY.*

J. L. BUCHANAN, President.
A. E. MENKE, Chemistry, Physics, and Agriculture.
W. B. BENTLEY, Chemistry and Physics.
O. C. GRAY and G. W. DROKE, Mathematics.
JEROME MCNEILL and S. E. MEEK, Biology.
R. H. WILLIS and IDA PACE, English.
E. CHANDLER, Military Science and Tactics.
R. R. DINWIDDIE, Veterinarian of Ag'l Exper't Station.
W. F. BATES, Foreman of Farm and Instructor in Dairying.

REQUIREMENTS FOR ADMISSION.

(See Pages 35-38.)

*All students in this school must consult Professor Menke immediately after registration.

COURSE IN AGRICULTURE.

The School of Agriculture is designed and organized to give both theoretical and practical instruction in the various branches of agriculture. Special preparation is needed no less for the pursuit of agriculture than for law, medicine, or divinity. The method of instruction now employed is classroom work, accompanied by practical demonstrations in the field, dairy, and laboratories. The equipment for practical work will compare favorably with those of other agricultural colleges; the machinery is new and of the most improved pattern, all selected with a view to its economic value. The dairy has been recently fitted up with Laval's separator and other necessary implements. We have a large vineyard and orchard for practical horticultural work; a herd of pure stock of different breeds, so that the students can be instructed in

the work that occurs on either a stock, dairy, fruit, or cropped farm. The Board of Trustees offered last year the following prizes:

FOR THE BEST BUTTER.

1st Prize	\$45.00
2d "	20.00
3d "	10.00

FOR THE MOST PROFITABLE CROP.

1st Prize.....	\$40.00
2d "	15.00
3d "	10.00

THE BEST YIELD OF MANGOLDS.

1st Prize	\$35.00
2d "	15.00
3d "	10.00

The rules governing the contest are as follows:

Students wishing to compete for these prizes must remain through the entire season for cultivation and must be a recognized student when the crop is gathered or harvested. Any withdrawal or disconnection from the University during the season of cultivation or gathering the crop will exclude such student from the contest. Students in the Agricultural Department only are allowed to compete.

FARMERS' COURSE FOR CERTIFICATE IN AGRICULTURE.

FRESHMAN YEAR.

	Hours per week
Biology 1 (<i>General Biology</i>)	3
Chemistry 1 (<i>Agricultural Chemistry</i>)	3
English 1 (<i>Rhetoric and English Literature</i>)	3
Mathematics 1, 2, and 3, (<i>Algebra, Geometry and Trigonometry</i>) ..	5
Botany 1 (<i>Systematic Botany</i>)	3

SOPHOMORE YEAR.

Veterinary Anatomy	3
Agriculture	2
Horticulture (first term)	4
Dairy Husbandry (second and third terms)	4
Stock Breeding	3
Chemistry 3 (<i>General Chemistry</i>)	5

Students who have completed this course may take the Junior and Senior years in the College of Science and graduate with the Degree of Bachelor of Science.

FARMERS' INSTITUTES.

Under direction of the University authorities, a series of Farmers' Institutes was held in 1894 at Washington, Arkadelphia, Searcy, and Monticello. Papers were read by President Buchanan and Professors Menke and McNeill, and by Agriculturists Bennett, Newman, and Bates, and a general discussion followed. The subjects were of a practical character and treated of points that are usually obscure, but that can be elucidated by explanation and discussion. This series of Farmers' Institutes was the first ever held in the State, and it is hoped that the number may be increased in future.

Counties desiring institutes for the year 1895 should apply to the President of the University.

COLLEGE OF MECHANIC ARTS AND ENGINEERING.

FACULTY.*

- J. L. BUCHANAN, President, Political Economy.
C. V. KERR, Mechanical Engineering, Superintendent Mechanic Arts.
A. E. MENKE and W. B. BENTLEY, Chemistry and Physics.
O. C. GRAY and G. W. DROKE, Mathematics.
JEROME MCNEILL and S. E. MEEK, Biology and Geology.
R. H. WILLIS and IDA PACE, English.
J. F. HOWELL, History and Pedagogics.
E. CHANDLER, Military Science and Tactics.
W. N. GLADSON, Electrical Engineering.
J. J. KNOCH, Civil Engineering.
MACK MARTIN, Machine Shop, Mechanics.
F. P. NICHOLAS, Wood Shop.
G. W. BASHAW, Foundry and Forge Shop.
C. S. DUGGANS, Engineer.
JESSIE L. CRAVENS, Elocution.

REQUIREMENTS FOR ADMISSION.

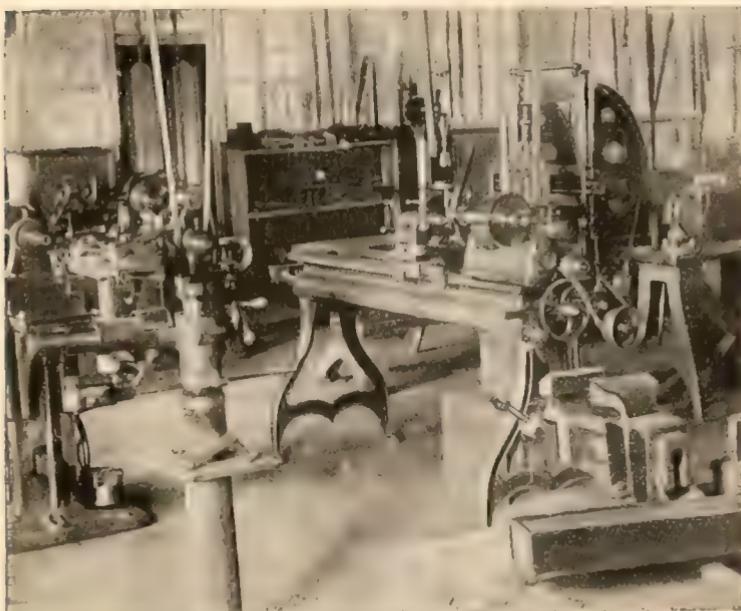
(See Pages 35-38).

*Students in this college must consult Professor Kerr immediately after registration.

GENERAL DESCRIPTION OF COURSES IN ENGINEERING.

Mechanical Engineering directs the design and construction of all forms of machines, and their installation in machine shops, mills, and factories. It directs the design, construction, erection, and operation of boilers, steam and gas engines, locomotives, turbines, and other prime movers; of pumping machinery for waterworks; of machinery, and apparatus for the manufacture of ice, and the distribution of refrigeration from central stations. Since the utilization of

the forces and materials of nature is accomplished in nearly all cases by machines, or by processes working through machinery, it is evident that mechanical engineering is the basis of all industries.



MACHINE SHOP.

Civil Engineering embraces the location and construction of railroads, canals, waterworks, sewerage systems, foundations on land and in water, tunnels, and superstructures; the surveys, improvements, and defenses of coasts, harbors, rivers, and lakes; the application of mechanics, descriptive geometry, and graphics to the design and construction of arch bridges, roofs, truss, and suspension bridges; irrigation and drainage of lands; the location and maintenance of public roads; and the preparation of forms of specifications and contracts.

Electrical Engineering deals with the design and construction of dynamos and motors; the distribution of elec-

tricity for use in illumination, or for driving machinery; the construction and operation of electric railways; the erection and management of telegraph and telephone lines; and with electrolysis and welding of metals.

Theoretical and applied electricity, and mechanical engineering are naturally the leading subjects. Theory is treated in ample breadth and tested by experiments in well equipped laboratories, which affords the student a degree of facility in the use of machines and instruments only acquired in continued practice.

The courses of engineering offered are designed to supply not only mental training but the means of securing a livelihood in the professions to which they lead. It is believed that the most efficient way to teach theory is to unfold it to the student only so fast as he can apply it to the practical work of his course. He thus makes it his own, and theory becomes practice.

CIVIL, MECHANICAL AND ELECTRICAL ENGINEERING.

FRESHMAN YEAR.

Hours per Week.

TERMS:

	1st.	2d.	3d.
Mathematics, 2, (<i>Geometry</i>).....	3	3	..
Mathematics 1, (<i>Algebra</i>).....	2	2	2
Mathematics 3, (<i>Plane Trigonometry</i>).....	....	....	3
Physics 1, (<i>General Physics</i>)	5	5	5
English 1, (<i>Rhetoric and English Literature</i>).....	3	3	3
Engineering 1, (<i>Drawing</i>)	2	2	2
Engineering 2, (<i>Machine Shops</i>).....	4	4	4

SOPHOMORE YEAR.

Mathematics 4, (<i>Spherical Trigonometry</i>).....	2		
Mathematics 5, (<i>Analytical Geometry</i>).....	3	5	....
Mathematics 6, (<i>Differential Calculus</i>).....	....	....	5
Chemistry 3, (<i>General Chemistry</i>).....	5	5	5
Physics 2, (<i>Physical Measurements</i>).....	1	1	1
Engineering 4, (<i>Surveying</i>).....	2	2	..
Engineering 5, (<i>Field Practice</i>).....	2	2	2
Engineering 7, (<i>Hydraulics</i>) .....	..	..	2
English 2, (<i>English, Prose Style</i>)	2	2	2
Engineering 3, (<i>Descriptive Geometry</i>)	2	2	2

MECHANICAL ENGINEERING COURSE FOR DEGREE OF B. M. E.

JUNIOR YEAR.

	TERMS:	1st.	2d.	3d.
Mathematics 7, (<i>Integral Calculus</i>).....		3	3	
Engineering 22, (<i>Steam Engineering</i>).....		3	3	2
Engineering 10, (<i>Elements of Mechanism</i>).....		3		
Engineering 13, (<i>Machine Design</i>).....		3		
Engineering 18, (<i>Valve Gears</i>).....		3		3
{ Political Economy		2	2	2
or Mathematics 8 and 9, (<i>Astronomy and Logic</i>)....		2	2	3
Engineering 41, (<i>Drawing</i>).....		2	2	2
Engineering 21, (<i>Mechanical Laboratory</i>).....		2	2	2
Engineering 27, (<i>Statics and Dynamics</i>).....		2		3
Engineering 20, (<i>Masonry Construction</i>)				3
{ Engineering 19, (<i>Dynamo Electric Machinery</i>).....		4	2	
and Engineering 25, (<i>Practical Management of Dyamons and Motors</i>).....		...		2
{ Or Chemistry 5, (<i>Qualitative Analysis</i>).....		5	2	2

SENIOR YEAR.

Engineering 29, (<i>Strength of Materials</i>).....	4			
Engineering 51, (<i>Graphics</i>)	1			
Engineering 35, (<i>Thermodynamics</i>).....	3	3		
Engineering 38, (<i>Mechanical Refrigeration</i>)				3
Engineering 54, (<i>Experimental Engineering</i>)	2	2		
Chemistry 12, (<i>Metallurgy of Iron and Steel</i>).....	3			
Engineering 32, (<i>Fly-Wheels and Reciprocating Parts</i>)	2			
Engineering 37, (<i>Hydraulics</i>)			5	
Engineering 32, (<i>Governors</i>)			2	
Engineering 52, (<i>Locomotive Mechanism</i>)			3	
Engineering 47, (<i>Pumping Machinery</i>)				3
Engineering 45, (<i>Turbines</i>)				2
Engineering 55, (<i>Gas Engines</i>)				2
Engineering 49, (<i>Power Plants</i>)				1
Engineering 42, (<i>Laws of Business</i>)				3
Engineering 40, (<i>Engineering Laboratory</i>)	2	2		
Engineering 41, (<i>Drawing</i>)	2	2		
Engineering 57, (<i>Thesis</i>)				5

CIVIL ENGINEERING COURSE FOR DEGREE OF B. C. E.

JUNIOR YEAR.

	TERMS:	1st.	2d.	3d.
Mathematics 7, (<i>Integral Calculus</i>).....	3	3		
Engineering 22, (<i>Steam Engineering</i>).....	3	3	2	
Engineering 9, (<i>Railroad Engineering</i>).....	2	1	4	
Geology 3, (<i>Economic Geology</i>).....	3	3		
Geology 2, (<i>Practical Geology</i>)	1	1	1	
Political Economy.....	2	2	2	
Engineering 27, (<i>Statics and Dynamics</i>).....	....	2	3	
Engineering 20, (<i>Masonry Construction</i>) .....	....		3	
Engineering 23, (<i>Mine Engineering</i>).....	1	..		
Engineering 12, (<i>Field Practice</i>)	2	2	2	
Engineering 17, (<i>Drawing</i>).....	2	2	2	

SENIOR YEAR.

Chemistry 12, (<i>Metallurgy of Iron and Steel</i>).....	3	...	
Engineering 29, (<i>Strength of Materials</i>).....	4	...	
Engineering 51, (<i>Graphics</i>).....	1	...	
Engineering 47, (<i>Pumping Machinery</i>) .....	....	...	3
Engineering 26, (<i>Sanitary Engineering</i>).....	3	...	
Engineering 28, (<i>Arches and Dams</i>)	2	...	
Engineering 34, (<i>Stereotomy and Drawing</i>)	2		
Engineering 37, (<i>Hydraulics</i>) .....	....	5	
Engineering 48, (<i>Waterworks</i>) .....	....	4	
Engineering 36, (<i>Roofs and Bridges</i>) .....	....	4	4
Engineering 50, (<i>Contracts and Specification</i>) .....	....		2
Engineering 42, (<i>Laws of Business</i>) .....	....		3
Mathematics 8, (<i>Astronomy</i>).....	....		3
Engineering 44, (<i>Drawing</i>) .....	....	2	
Engineering 31, (<i>Field Practice</i>)	2	2	
Engineering 40, (<i>Engineering Laboratory</i>)	2	2	
Engineering 57, (<i>Thesis</i>) .....	....		5

ELECTRICAL ENGINEERING COURSE FOR DEGREE OF B. E. E.

JUNIOR YEAR.

	TERMS:	1st.	2d.	3d.
Mathematics 7, (<i>Integral Calculus</i>).....	3	3		
Engineering 22, (<i>Steam Engineering</i>)	3	3	2	
{ Political Economy.....	2	2	2	
{ or Mathematics 8 and 9, (<i>Astronomy and Logic</i>)	2	2	3	
Engineering 27, (<i>Statics and Dynamics</i>) .....	....	2	3	
Engineering 19, (<i>Dynamo Electric Machinery</i>)	4	2		

	Terms:	1st.	2d.	3d.
Engineering 25, (<i>Practical Management of Dynamos and Motors</i>)				2
Engineering 43, (<i>Theory of Alternate Currents</i>)				3
Engineering 11, (<i>Electrical Laboratory</i>)	2	2		2
Engineering 14, (<i>Technical Drawing</i>)	2	2		2
Engineering 10, (<i>Elements of Mechanism</i>)	3			
Engineering 13, (<i>Machine Design</i>)		3		
Engineering 18, (<i>Valve Gears</i>)			3	
Or Chemistry 5, (<i>Qualitative Analysis</i>)	5	2	2	

SENIOR YEAR.

Engineering 29, (<i>Strength of Materials</i>)	4			
Engineering 51, (<i>Graphics</i>)	1			
Engineering 35, (<i>Thermodynamics</i>)	3	3		
Chemistry 12, (<i>Metallurgy of Iron and Steel</i>)	3			
Engineering 37, (<i>Hydraulics</i>)		5		
Engineering 32, (<i>Fly-Wheels</i>)	2			
Engineering 43, (<i>Theory of Alternate Currents</i>)	2			
Engineering 49, (<i>Power Plants</i>)			1	
Engineering 32, (<i>Governors</i>)		2		
Engineering 50, (<i>Alternate Current Machinery</i>)		3		
Engineering 46, (<i>Electric Railways</i>)			3	
Engineering 53, (<i>Specifications</i>)			1	
Engineering 42, (<i>Laws of Business</i>)			3	
Engineering 40, (<i>Engineering Laboratory</i>)		2		
Engineering 24, (<i>Technical Drawing</i>)	2	2		
Engineering 30, (<i>Electrical Laboratory</i>)	2	2	2	
Engineering 33, (<i>Telephone and Telegraph</i>)				2
Engineering 39, (<i>Absolute Measurements in Electricity and Magnetism</i>)				2
Engineering 57, (<i>Thesis</i>)				5

MECHANIC ARTS COURSES.

These courses are of four years' duration beginning with the first preparatory class instead of six as in the regular Engineering Courses. They are intended to enable students to acquire sufficient skill at some mechanical occupation to earn a living by it. At the same time they secure a good general education. Thus the Trades Courses will enable students to become skilled as carpenters, blacksmiths, foundrymen, or machinists. The student who educates himself while learning his trade will have a decided advantage over the one

who learns it by the apprenticeship system and will more quickly rise to a position as foreman or superintendent. The Stationary Engineers Course will enable students to take charge of the boilers and engines of a power plant, and, being given a practical knowledge of electricity as well as steam, they can, in small plants, run also the dynamos and motors for light and power.

All of these courses are the same for the first and second preparatory and Freshman classes as for the regular engineering courses.

TRADES COURSES.

SOPHOMORE YEAR.

	TERM.	1st.	2d.	3d.
*Chemistry 3, (<i>General Chemistry</i>)	5	5	5	
Engineering 22, (<i>Steam Engineering</i>)	3	3	2	
Engineering 10, (<i>Elements of Mechanism</i>)	3			
Engineering 13, (<i>Machine Design</i>)			3	
Engineering 18, (<i>Valve Gears</i>)				3
Engineering 41, (<i>Drawing</i>)	2	2	2	
Engineering 6, (<i>Shop Work</i>)	5	5	5	
*Engineering 4 and 5, (<i>Surveying</i>), may be substituted for Chemistry.				

STATIONARY ENGINEERS COURSE.

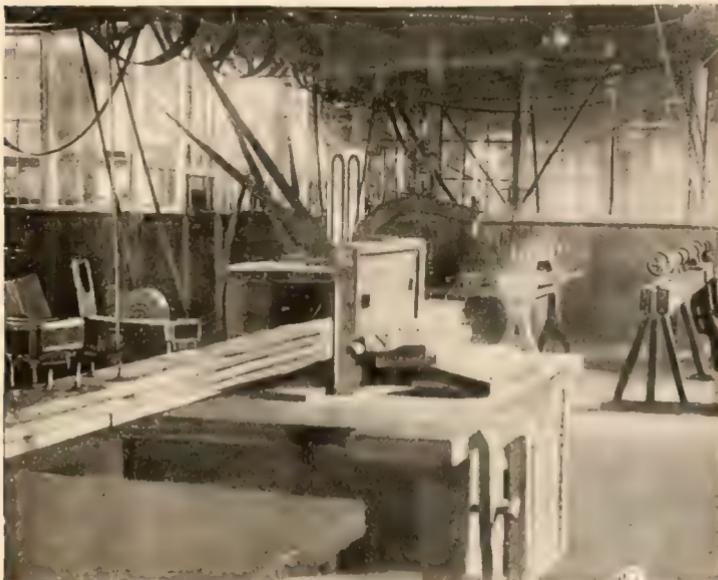
SOPHOMORE YEAR.

	TERM.	1st.	2d.	3d.
Engineering 22, (<i>Steam Engineering</i>)	3	3	2	
Engineering 19, (<i>Dynamo Electric Machinery</i>)	4	2		
Engineering 25, (<i>Practical Management of Dynamos and Motors</i>)				2
Engineering 41, (<i>Drawing</i>)	2	2	2	
Engineering 10, (<i>Elements of Mechanism</i>)	3			
Engineering 13, (<i>Machine Design</i>)		3		
Engineering 18, (<i>Valve Gears</i>)			3	
Engineering 20, (<i>Masonry Construction</i>)			3	
Engineering 52, (<i>Locomotive Mechanism</i>)		3		
Engineering 61, (<i>Engine, Boiler and Dynamo Running</i>)	5	5	5	

NOTE 1.—Students completing one of the courses in Mechanic Arts receive an appropriate certificate.

NOTE 2.—Candidates for admission to the Freshman Class in the College of Mechanic Arts and Engineering will be examined in all the subjects required for admission to the University except Latin. The drawing and shop work will be made up after admission.

NOTE 3.—Every student is required to have the equivalent of fifteen recitations per week, in which two hours of drawing, or shop work, or laboratory work are counted as equal to one recitation. But he will not be allowed to have the equivalent of more than twenty recitations without the consent of the Faculty.



WOOD SHOP.

SHORT COURSE IN ELECTRICAL ENGINEERING.

This course is intended for students lacking time and preparation for the full course, and is especially designed for those students who have had some practical experience in engineering.

The work is more elementary in character than the long course, embracing only the necessary mathematics, which with physics, electrical engineering, and laboratory work, gives the student sufficient theory, supplemented by practice, in the shortest possible time.

During the last year, from one to six hours a week may be devoted to any line of work the student may select.

This course prepares students for practical work, such as managing or superintending, lighting, power, or manufacturing plants. It does not lead to a degree, but a suitable certificate will be given on completion of work.

For laboratory facilities, see Electrical Laboratory, page 26.

Applicants for admission to this course must pass a satisfactory examination in mathematics, as required for admission to the freshman class. See pages 35 and 36.

COURSE OF STUDY.

FIRST YEAR.

	TERMS.	1st.	2d.	3d.
Mathematics 1, (<i>Algebra</i>).....	2	2	2	
Mathematics 2, (<i>Geometry</i>)	3	3	...	
Mathematics 3, (<i>Plane Trigonometry</i>).....	...	...	3	
Physics 1, (<i>General Physics</i>).....	5	5	5	
Engineering 1, (<i>Mechanical Drawing</i>)	2	2	2	
Engineering A, (<i>Wood Working</i>)	4	...		
Engineering C and E, (<i>Founding and Forging</i>) .....	...	4		
Engineering 2, (<i>Machine Shops</i>) .....	...	...	4	
Engineering 8, (<i>Electricity and Magnetism</i>)	3	3	3	

SECOND YEAR.

	TERMS.	1st.	2d.	3d.
Engineering 16, (<i>Electrical Engineering</i>).....	5	5	5	
Engineering 11, (<i>Electrical Laboratory</i>).....	2	2	2	
Engineering 30, (<i>Electrical Laboratory</i>).....	2	2	2	
Engineering 14, (<i>Technical Drawing</i>)	3	3	3	
Physics 2, (<i>Physical Measurements</i>)	2	2	2	
Engineering 53, (<i>Specifications</i>) .....	...	...	1	
Elective.....	6	6	5	

COLLEGE OF SCIENCE.

FACULTY.*

- J. L. BUCHANAN, President, Psychology.
JEROME MCNEILL, Biology, Botany.
A. E. MENKE and W. B. BENTLEY, Chemistry and Physics.
S. E. MEEK, Geology and Zoölogy,
O. C. GRAY and G. W. DROKE, Mathematics.
R. H. WILLIS and IDA PACE, English and Modern Languages.
J. F. HOWELL, History and Pedagogics.
E. CHANDLER, Military Science and Tactics.
J. J. KNOCH, Civil Engineering.
JESSIE L. CRAVENS, Elocution.

REQUIREMENTS FOR ADMISSION.

(See Pages 35-38).

*All students in this college must consult Prof. McNeill immediately after registration.

GENERAL STATEMENT.

The design of the courses of study offered by this College is first to afford students a liberal education with some branch of science substituted for Latin or Greek, and second to make some one subject in science so prominent that the graduate will have an excellent foundation for a profession. By requiring every graduate to spend at least three years on one branch of science, as chemistry or botany, he is obliged to go much beyond the easy introduction, which is all that is required in the old-fashioned B. S. course, so that he has the advantage of the severe mental discipline which a difficult study affords; and when this course is completed, he has the satisfaction of knowing that he is the possessor of special knowledge which can be turned to immediate use, if he sees fit. Graduates of this College receive the degree Bachelor of Science (B. S.).

I. COURSE WITH CHEMISTRY.

The Course in Chemistry is designed to prepare students for actual work in connection with manufactures based on chemical principles. To the credit of chemistry as an industrial science, the tenth United States census shows, in the United States alone, the existence of 1,349 chemical establishments, employing 29,500 workmen and paying annual wages to the amount of \$11,820,728.

The course extends over four years and embraces class room work, consisting of a full course of lectures on general, theoretical, analytical, industrial, and organic chemistry; nonchemical studies, such as English, modern languages, history, mineralogy, mathematics, and physics being introduced with reference to their bearing on chemical work and for their educational value.

The student spends a large part of the four years in the laboratories. In the first year there is physical and general chemical laboratory practice, in the second year laboratory work in physics, qualitative analysis, and biology, in the third and fourth years in analytical and industrial chemistry.

FRESHMAN YEAR.

	Hours per week.
Chemistry 3 (<i>General Chemistry</i>)	5
Physics 1 (<i>General Physics</i>).....	5
English 1 (<i>Rhetoric and English Literature</i>)	3
Mathematics 1, 2, and 3 (<i>Algebra, Geometry, and Trigonometry</i>)	5

SOPHOMORE YEAR.

Biology 1 (<i>General Biology</i>).....	3
Chemistry 5a (<i>Theoretical Qual. Anal.</i>) first term	3
Chemistry 6 (<i>Mineralogy</i>) second term.....	3
Chemistry 4 (<i>Chemical Philosophy</i>) third term	3
French 1 or Spanish 1.....	3
History 2 (<i>General History</i>).....	3
Physics 2 (<i>Physical Measurements</i>).....	2
Chemistry 5b (<i>Practical Qual. Anal.</i>).....	3

JUNIOR YEAR.

	Hours per week.
Chemistry 7 (<i>Organic Chemistry</i>)	3
Geology 1 (<i>General Geology</i>)	3
German 1	3
Chemistry 8 (<i>Quantitative Analysis</i>)	4
Elective	4

SENIOR YEAR.

Chemistry 12 (<i>Metallurgy</i>)	3
Chemistry 10 (<i>Technical Chemistry</i>)	3
German 2 and 3	4
German 4	1
Chemistry 11 (<i>Physical Chemistry</i>)	3
Chemistry 9 (<i>Advanced Quantitative Analysis</i>)	}
Chemistry 13 (<i>Assaying</i>)	4

II. COURSE WITH BOTANY.

FRESHMAN YEAR.

Biology 1 (<i>General Biology</i>)	3
Physics 1 (<i>General Physics</i>)	5
English 1 (<i>Rhetoric and English Literature</i>)	3
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>)	3
French 1	3

SOPHOMORE YEAR.

Botany 1 (<i>Systematic Botany</i>)	3
Zoölogy 1 (<i>General Zoology</i>)	3
Chemistry 2 (<i>General Inorganic Chemistry</i>)	3
French 2 and 4	3
History 2 (<i>General History</i>)	3
English 2 (<i>English Prose Style</i>)	2

JUNIOR YEAR.

Botany 2 (<i>General Morphology of Plants</i>)	3
Entomology 1 (<i>General Entomology</i>)	3
Geology 1 (<i>General Geology</i>)	3
German 1	3
Elective	4

SENIOR YEAR.

Botany 4 (<i>Vegetable Histology</i>)	6
German 2 and 4	3
Psychology	3
Elective	4

III. COURSE WITH ENTOMOLOGY.

FRESHMAN YEAR.

	Hours per week
Biology 1 (<i>General Biology</i>).....	3
Physics 1 (<i>General Physics</i>).....	5
English 1 (<i>Rhetoric and English Literature</i>)	3
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>).....	3
French 1	3

SOPHOMORE YEAR.

Botany 1 (<i>Systematic Botany</i>).....	3
Zoölogy 1 (<i>General Zoology</i>).....	3
Chemistry 2 (<i>General Inorganic Chemistry</i>).....	3
French 2 and 4	3
History 2 (<i>General History</i>)	3
English 2 (<i>English Prose Style</i>)	2

JUNIOR YEAR.

Entomology 2 (<i>General Entomology</i>).....	6
Botany 2 (<i>General Morphology of Plants</i>)	3
Geology 1 (<i>General Geology</i>).....	3
German 1	3
Elective	4

SENIOR YEAR.

Entomology 3 (<i>Economic Entomology</i>).....	6
Psychology	3
German 2 and 4	3
Elective	5

IV. COURSE WITH ZOOLOGY.

FRESHMAN YEAR.

Biology 1 (<i>General Biology</i>).....	3
Physics 1 (<i>General Physics</i>).....	5
English 1 (<i>Rhetoric and English Literature</i>)	3
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>)	3
French 1	3

SOPHOMORE YEAR.

Botany 1 (<i>Systematic Botany</i>)	3
Zoölogy 1 (<i>General Zoology</i>).....	3
Chemistry 2 (<i>General Inorganic Chemistry</i>)	3
French 2 and 4	3
History 2 (<i>General History</i>)	3
English 2 (<i>English Prose Style</i>)	2

JUNIOR YEAR.	Hours per week.
Zoölogy 2 (<i>Vertebrate Anatomy</i>)	3
Botany 2 (<i>General Morphology of Plants</i>)	3
Geology 1 (<i>General Geology</i>)	3
German 1	3
Elective	4

SENIOR YEAR.

Zoölogy 4 and 5	6
Psychology	3
German 2 and 4	3
Elective	4

V. COURSE WITH GEOLOGY.

FRESHMAN YEAR.

Biology 1 (<i>General Biology</i>)	3
Physics 1 (<i>General Physics</i>)	5
English 1 (<i>Rhetoric and English Literature</i>)	3
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>)	3
French 1	3

SOPHOMORE YEAR.

Botany 1 (<i>Systematic Botany</i>)	3
Zoölogy 1 (<i>General Zoology</i>)	3
Chemistry 2 (<i>General Inorganic Chemistry</i>)	3
French 2 and 4	3
History 2 (<i>General History</i>)	3
English 2 (<i>English Prose Style</i>)	2

JUNIOR YEAR.

Geology 1 and 2 (<i>General and Practical Geology</i>)	5
German 1	3
Engineering 4 (<i>Surveying</i>)	3
Elective	5

SENIOR YEAR.

Geology 2 (<i>Practical Geology</i>)	2
Geology 4 or 5 (<i>Paleontology or Petrography</i>)	3
German 2 and 4	3
Psychology	3
Elective	5

THE COLLEGE OF LIBERAL ARTS.

FACULTY.

- J. L. BUCHANAN, President, Psychology and Ethics.
R. H. WILLIS, English and Modern Languages.
O. C. GRAY and G. W. DROKE, Mathematics, Astronomy, and Logic
IDA PACE, English and Modern Languages.
C. H. LEVERETT, Greek.
J. F. HOWELL, History and Pedagogics.
J. C. FUTRALL, Latin.
A. E. MENKE and W. B. BENTLEY, Chemistry and Physics.
JEROME MCNEILL and S. E. MEEK, Biology and Geology.
E. CHANDLER, Military Science and Tactics.
JESSIE L. CRAVENS, Elocution.

REQUIREMENTS FOR ADMISSION.

(See Pages 35-38).

CLASSICAL COURSES FOR DEGREE OF BACHELOR OF ARTS (B. A.).

Each of these courses is designed to furnish a liberal education, to give superior mental discipline, and to prepare students to enter upon professional studies—law, medicine, journalism, etc. Each contains, besides English, not less than six yearly courses in languages, and at the same time the arrangement of elective studies allows students to give special attention to mathematics, to any branch of science, to history, or to one of the ancient or modern languages. Each class has such practical work as the subject requires, and optional studies in elocution or in other branches are allowed to the limit of twenty hours per week. The courses are merely outlined here. For details concerning the studies mentioned, consult Departments of Instruction, beginning on page 52.

I. COURSE WITH MATHEMATICS.

	FRESHMAN YEAR.	Hours per week.
Latin	3
Mathematics 1 (<i>Algebra</i>)	2
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>)	3
Greek 1, or French 1	3
English 1 (<i>Rhetoric and English Literature</i>)	3
Biology 1, Botany 1, or Zoölogy 1.....	3

SOPHOMORE YEAR.

Latin 2 .....	.....	3
Mathematics 4, 5 and 6 .....	.....	5
History 2 (<i>General History</i>) .....	.....	3
History 3 (<i>English History</i>) .....	.....	1
Greek 2 or French 2 and 4 .....	.....	3
English 2 (<i>English Prose Style</i>) .....	.....	2

JUNIOR YEAR.

Latin 3, Greek 4, or German 1 .....	.....	3
Mathematics 6 (<i>Calculus and Astronomy</i>) .....	.....	5
English 4 (<i>Chaucer to Milton</i>) .....	.....	2
Political Economy .....	.....	2
Logic and Neurology .....	.....	2
Elective .....	.....	2

SENIOR YEAR.

Latin 4, Greek 5, 6, or 8, or German 2 and 4 .....	.....	3
History 4, 5, 6, or 7 .....	.....	2
Psychology and Ethics .....	.....	3
English 6 (<i>Philology</i>) .....	.....	1
Elective .....	.....	7

II. COURSE WITH MODERN LANGUAGES.

FRESHMAN YEAR.

Latin 1 .....	.....	3
French 1 .....	.....	3
Mathematics 1 (<i>Algebra</i>) .....	.....	2
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>) ..	.....	3
English 1 (<i>Rhetoric and English Literature</i>) .....	.....	3
Biology 1, Botany 1, or Zoölogy 1 .....	.....	3

SOPHOMORE YEAR.

	Hours per week.
Latin 2	3
French 2 and 4, or Spanish 1	3
English 2 (<i>English Prose Style</i>)	2
History 2 (<i>General History</i>)	3
History 3 (<i>English History</i>)	1
Physics 1 (<i>General Physics</i>)	5

JUNIOR YEAR.

English 3 (<i>Modern Poetry</i>)	2
English 4 (<i>Chaucer to Milton</i>)	2
German 1	3
French 3 or Spanish 1 or 2	3
Logic and Neurology or Astronomy	2
Political Economy	2
Elective	3

SENIOR YEAR.

English 5 (<i>Anglo-Saxon and Middle English</i>)	3
English 6 (<i>Philology</i>)	1
German 2, 3, and 4	6
History 6 (<i>European History</i>)	2
Elective	4

Students of energy and ability are advised to take Greek as an optional study.

II. COURSE WITH ANCIENT LANGUAGES.

FRESHMAN YEAR.

Latin 1	3
Greek 1	3
Mathematics 1 (<i>Algebra</i>)	2
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>)	3
English 1 (<i>Rhetoric and English Literature</i>)	3
Biology 1, Botany 1, or Zoölogy 1	3

SOPHOMORE YEAR.

Latin 2	3
Greek 2	3
English 2 (<i>English Prose Style</i>)	2
History 2 (<i>General History</i>)	3
History 3 (<i>English History</i>)	1
Physics 1 (<i>General Physics</i>)	5

JUNIOR YEAR.

	Hours per week.
Latin 3	3
Greek 3 and 4.....	4
English 4 (<i>Chaucer to Milton</i>).....	2
Logic and Neurology	2
Political Economy	2
Elective	3

SENIOR YEAR.

Latin 4, or Greek 5, 6, or 8	3
Psychology and Ethics.....	3
English 6 (<i>Philology</i>).....	1
Elective	9

IV. COURSE WITH HISTORY.

FRESHMAN YEAR.

Latin 1	3
History 1 (<i>Constitutional History</i>)	2
Mathematics 1 (<i>Algebra</i>).....	2
Mathematics 2 and 3 (<i>Geometry and Plane Trigonometry</i>)	3
English 1 (<i>Rhetoric and English Literature</i>)	3
Elective	4

SOPHOMORE YEAR.

Latin 2.....	3
History 2 (<i>General History</i>)	3
History 3 (<i>English History</i>)	1
English 2 (<i>English Prose Style</i>).....	2
{ Chemistry 2 (<i>General Inorganic Chemistry</i>)	3
{ or Physics 1 (<i>General Physics</i>).....	2
or Elective	5 or 3

JUNIOR YEAR.

History 4 (<i>Ancient History</i>)	2
Political Economy	2
English 4 (<i>Chaucer to Milton</i>).....	2
Logic and Neurology	2
Elective	8

SENIOR YEAR.

History 6 (<i>European History</i>)	2
History 7 (<i>American History</i>)	2
Psychology and Ethics...	3
English 6 (<i>Philology</i>)	1
Elective	8

General Physics, General Chemistry, or General Biology is required for all Seniors who have not passed in one of these branches.

Elective Studies—Any subjects mentioned in the B. A. or B. S. courses above, if not counted already; and, also the Elements of Mechanism and Electricity. Except as provided above, or by special act of the Faculty, elective studies, if counted for a degree, must be pursued at least one year each; German for two years.

All students in the College of Liberal Arts will, immediately after registration in the President's office, consult Professor Willis in Room 15. He has general supervision of their work, their examinations for admission, choice of courses, electives, etc.

THE NORMAL SCHOOL.

FACULTY.*

- J. L. BUCHANAN, President.
J. F. HOWELL, History and Pedagogics.
A. E. MENKE and W. B. BENTLEY, Physics and Chemistry.
O. C. GRAY and G. W. DROKE, Mathematics.
JEROME MCNEILL and S. E. MEEK, Biology and Geology.
R. H. WILLIS and IDA PACE, English.
J. C. FUTRALL, Latin.
ELIAS CHANDLER, Military Science and Tactics.
JESSIE L. CRAVENS, Elocution.

REQUIREMENTS FOR ADMISSION.

(See Pages 35-38.)

*Normal Students must consult Professor Howell immediately after registration.

Section 6166 of the Revised Statutes of the State is as follows: "The State Superintendent of Public Instruction shall have power to grant State certificates, which shall be valid for life, unless revoked, to any person in the State who shall pass a thorough examination in all those branches required for granting county certificates, and also in algebra and geometry, physics, rhetoric, mental philosophy, history, Latin, the Constitution of the United States, and of the State of Arkansas, natural history, and the theory and art of teaching."

It will be observed that the course includes all the branches required for a State certificate in accordance with the law, and in addition, some other subjects with which a teacher should be familiar. After completing the Normal Course, students may take up in the Junior Class the work of any course for which they may be prepared, and compete for the corresponding degree.

Normal Course Leading to the Certificate of Licentiate of Instruction (L. I.)**FRESHMAN YEAR.**

	Hours per week.
Latin 1	3
Mathematics 1 (<i>Algebra</i>)	2
Mathematics 2 and 3 (<i>Geometry and Trigonometry</i>)	3
Biology 1 (<i>General Biology</i>)	3
Pedagogy 1	2
English 1 (<i>Rhetoric and English Literature</i>)	3

SOPHOMORE YEAR.

Latin 2	3
Physics 1 (<i>General Physics</i>)	5
History 1 (<i>Constitutional History</i>)	2
History 2 (<i>General History</i>)	3
Pedagogics 2, 3, and 4	3

NOTE TO TEACHERS.—The attention of young teachers is called to the Department of History and Pedagogics on page 79, where it will be observed that instruction is offered in certain lines of pedagogics for periods of three months, thus giving them opportunity to spend their vacations here in such work as they may be competent to do. From March to June pedagogy, embracing elementary psychology, may be studied with the Freshman class, and school management with the Sophomore class. From June to September pedagogy may be studied with the Freshman, and history of education with the Sophomore class. From September to December pedagogy may be studied with the Freshman, and school law and history of education with the Sophomore class. In addition to this technical work, teachers will find superior advantages here in other branches of learning, should they desire to spend a vacation in fitting themselves for more thorough and higher work. Correspondence relative to the work of this department is cordially invited.

LIST OF NORMAL GRADUATES.

1875.	1887.
Botefuhr, Laura D.	Hall, H. J., L. I.
Carson, Ann E.	Taff, J. H., L. I.
Carson, Augusta O.	1888.
Davis, Lizzie P.	Southerland, J. W., L. I.
Gorton, Belle.	1889.
McCart, Eva.	Condroy, W. F., L. I.
McKinney, Charles F.	Core, Elias, L. I.
Moore, Lucy J.	Reynolds, Mattie, L. I.
Putnam, Anna.	1890.
Waggener, W. J.	Galloway, Irene, L. I.
1876.	Holcombe, Cener, L. I.
Barnett, Nettie, B. L.	1891.
Neal, W. H., B. L.	Hamilton, W. J., L. I.
Taylor, E. L., B. L.	1893.
1877.	Dyer, Mallie, L. I.
Blakely, Nora, B. L.	
Carden, E. B., B. L.	
Mellette, W. M., B. L.	
Patton, Allice, B. L.	
Simms, W. D., B. L.	
Waggener, Annie, B. L.	

SCHOOL OF PHARMACY.

J. L. BUCHANAN, President.

A. E. MENKE and W. B. BENTLEY, Chemistry and Toxicology.

J. F. MCNEILL, Botany.

—, Pharmacy and Materia Medica.

J. C. FUTRALL, Latin.

The State of Arkansas requires that all persons desiring to practice Pharmacy shall pass a thorough examination in the subject proper and all branches related thereto, before the State Board of Pharmacy. The State University has established a School of Pharmacy that offers the most thorough instruction in the theoretical and practical work required. The course is laid out not with a view to the minimum requirements of the State Board, but is designed so that any one completing it can pass the examination entitling to practice in any State. The laboratory facilities that are offered are superior to any School of Pharmacy in the Southwest. The course consists of two years of nine months each. The requirements for admission are a satisfactory knowledge of English grammar, rhetoric and composition, United States History, Geography, Arithmetic, Algebra through quadratics, Physiology (Martin's Human Body), Latin (Elementary grammar and composition). Students who have spent two years in a drug store may have part of the entrance examination omitted.

Course Leading to Certificate in Pharmacy.

FIRST YEAR.		Hours per week.
Pharmacy 1.....	.....	3
Pharmacy 3	.....	2
Chemistry 3	.....	5
Botany 1 .....	.....	3
Latin (preparatory)	.....	4

	SECOND YEAR.	Hours per week.
Pharmacy 2	5
Toxicology	2
Materia Medica	4
Chemistry 5a (first term only)	3
Chemistry 5b	2

Pharmacy students will have the privilege of taking as electives any of the subjects taught in the University, if they are sufficiently advanced in the antecedent work required for the subject selected. They must consult Professor Menke immediately after registration.

GRADUATE COURSES AND DEGREES.

REQUIREMENTS FOR DEGREES OF C. E., M. E., OR E. E.

These courses of study are intended to more fully equip those students who have finished an undergraduate course in Engineering, for some special line of work for which their previous study has prepared them. The student will be given all possible liberty in selecting such specialties and will be limited only by certain general requirements. He will be required to make up at the beginning of the year the course which he proposes to follow and present it to the Faculty, approved by the instructors concerned. If accepted, it will be subject to change only by the Faculty. In general, it is expected that these courses shall comprise one principal subject based on the course already pursued and two secondary subjects, one or both of which should be closely related to the principal. The graduate course should amount to not less than fifteen recitation hours per week as counted in undergraduate work.

The subject of a thesis for any of the above degrees must be submitted to the Faculty for approval before the beginning of the third term.

These degrees will also be given after three years to those graduates in Civil, Mechanical, and Electrical Engineering who, having been in successful practice of their profession for that time, submit a satisfactory thesis on a subject approved by the Faculty.

REQUIREMENTS FOR THE MASTER'S DEGREE.

Applicants for the degree of M. A. or M. S. must have previously taken the Degree of B. A. or B. S. at this institution or at one having equal requirements. In addition they must take at the University, for a full scholastic year, not less than sixteen hours of recitations and lectures, as determined by the Faculty, and submit a satisfactory thesis.

Bachelors of Arts or of Science of this University may obtain the Master's degree without actual residence, but must complete the work mentioned above and pass satisfactory examinations upon it.

THE DEGREE OF DOCTOR OF PHILOSOPHY (PH. D.)

1. This degree will be conferred for distinguished attainments, as shown by examination and thesis, in any one of the five following subjects: Latin, Greek, German, French, English, and History, together with subordinate attainments in two others of the five; or for distinguished attainments in one principal and two subordinate, of the following sciences: Chemistry, Physics, Geology, Biology, Mathematics, Mechanics, Civil Engineering, and Electricity.

2. This degree shall be open to persons who have received the Degree of B. A. or B. S. at this institution, or at one having equal requirements. Ordinarily it will take three full years' study to complete the work required for this degree, and the last year or a longer time must be spent in resident study at this university.

3. A thesis of 4,000 words or more showing original research shall be required of every applicant, the subject of which shall be announced and passed upon by a committee of the Faculty at least one year before the time set for the final examination, and the thesis itself must be presented to the committee two months before admission to this examination. Twenty-five copies of the approved and printed thesis shall be placed in the University Library.

4. All applicants for this degree must, by the end of the first year of the course, be sufficiently conversant with French and German to read with ease any scientific work written in these languages.

Charges.—Graduate students pay \$10 for matriculation and registration, \$10 tuition (nonresidents \$5) at the beginning of each session, and \$10 in advance for the final examination. Students who fail to comply with any of these requirements, or who do not each year complete the equivalent of three terms' work in one subject, will be dropped from the rolls. Should such students desire to resume their studies, they must pay for matriculation and registration, as if beginning for the first time. The diploma fee is \$5 in advance in each case.

Graduates attending only undergraduate classes pay the same fees as undergraduates.

Nonresident students have such assistance and instruction in their studies as can be conveniently given by correspondence.

For graduate courses of study see pages 65, 66, 73, 74, 75, 76 and 78.

UNIVERSITY EXTENSION.

The purpose of University Extension is to give instruction to persons who are unable to attend the University, and who wish to devote a limited portion of their time to study and culture. It is especially helpful to those who have already begun collegiate courses of study, or have had good high school courses, but persons of ordinary general information may derive much benefit in this way.

In the past, the extension work of this University has been limited to occasional lectures, given by professors usually for schools, and to the professors' work in teachers' institutes and in farmers' institutes (see School of Agriculture); but now the officers of the University whose names are given below, hold themselves in readiness to give within the State courses of six lectures each at any conveniently accessible place, if consistent with their regular duties.

- | | |
|---|--|
| 1. President Buchanan | Agriculture. |
| 2. Professor Menke | (1) Water. (2) The Atmosphere. |
| 3. Professor Gray | Descriptive Astronomy with stereopticon views, or Mathematics and Astronomy. |
| 4. Professor McNeill | Entomology. |
| 5. Professor Willis | Burns, Coleridge, Scott, and Byron. |
| 6. Professor Leverett | Greek Literature. |
| 7. Professor Howell | The French Revolution. |
| 8. Professor Futrell | Roman Poetry, or the Influence of Rome on Modern Civilization. |
| 9. Associate Professor Bentley | Some of the Fundamental Laws of Physics. |
| 10. Associate Professor Droke | Modern Pure Geometry. |
| 11. Associate Professor Meek | Geology, including Geology of Arkansas. |
| 12. Associate Professor Knoch | The Value of Good Roads, and How to Obtain Them. |
| 13. Associate Professor Gladson | Theoretical and Applied Electricity. |
| 14. Principal Dunn | The History and Study of Language. |

Printed synopses for each course will be sent in advance for all persons who pledge themselves to study the course, and who register for it with the local manager. With these synopses there will be references to good literature on the subject, and other information. In connection with the lectures there will be further explanation in conferences or quizzes; and all persons who have attended the lectures, have the privilege of being examined upon their work and of having their credits entered on the University records. Persons who have passed satisfactory examinations upon twelve extension courses of six lectures each, will receive a University extension certificate.

For a course of lectures no charge will be made beyond the expenses of the lecturer. This charge may be met by a small fee, paid in advance to the local manager, for each person attending the lectures.

Correspondence on the subject should be addressed to the president of the University.

SINGLE LECTURES FOR ARKANSAS COMMUNITIES.

Wishing to make the University a direct benefit to the largest possible number of the citizens of Arkansas, the faculty offer a number of single lectures free to schools in the State, to societies of a religious, scientific, or literary character, or to communities seeking general culture. In all cases the lecturer's expenses must be paid; but no further charge is made by the University, if the lecture is free to the public, or if the admission fee is merely a sum intended to cover the lecturer's expenses.

AIDS TO PRIVATE STUDY.

The University will do all in its power to aid and stimulate culture in every form; and references, advice, and any other help that may be practicable, will be cheerfully given

to citizens who wish to follow courses of reading, either special or general, or to make scientific investigations, or to acquire useful information of any kind. The farmers of Arkansas are especially invited to avail themselves of the valuable information to be had from the Agricultural Department of the University and from the Agricultural Experiment Stations located at Fayetteville, Newport, and Camden.

Communications sent to Fayetteville should be addressed to the Director of the Agricultural Experiment Station for agricultural matters; otherwise to the President of the University, who will refer them to the proper officers.

TEACHERS' NONRESIDENT COURSES.

The University offers special opportunities to all teachers in Arkansas. It will admit them to its regular examinations for admission to the Freshman class, or will send the examination questions to county examiners, who will submit them to teachers under usual rules and return answers to the University. Teachers who pass the required entrance examinations, may then matriculate and enter upon nonresident courses of study under direction of the University professors; and upon completion of one term's work in any branch, they will be examined upon said work and credited with it, if it comes up to the University standard.

After finishing three-fourths of the course for a bachelor's degree, such teacher-students may graduate by completing the course as regular resident students.

Nonresident study is pursued under disadvantages, and none but energetic and methodical persons, who are willing to practice much self-denial, can succeed in such work. Such courses of study are in many respects less thorough than study under regular instruction at the University. Yet thousands of persons who cannot attend college regularly, are thus educating themselves; and the self-reliant habits of

study and investigation acquired by successful work of this kind are of untold value.

Teachers accepting this offer must obtain not less than two credits (two subjects passed for one term, or one subject for two terms), each year; else their names will be dropped from the rolls. Teachers whose vacation occurs during the session of the University, may supplement their nonresident study by attending the regular classes.

REGISTER OF STUDENTS.

ABBREVIATIONS:—Agrl., Agricultural; B. A., Bachelor of Arts; B. S., Bachelor of Science; C. E., Civil Engineering; E. E., Electrical Engineering; M. A., Master of Arts; M. E., Mechanical Engineering; M. S., Master of Science; Spec., Special; Irreg., Irregular.

GRADUATE STUDENTS.

NAME.	COURSE.	POST OFFICE.	COUNTY.
C. F. Armistead, B. A.	M. A.	Fort Smith	Sebastian.
L. R. Ash, B. C. E.	E. E.	Fayetteville	Washington.
Blanche Bibb, B. A.	M. A.	Fayetteville	Washington.
Hadge Davies, B. A.	M. A.	Staunton	<i>Virginia.</i>
C. H. Drake, B. C. E.	Spec.	Cincinnati	Washington.
Cener Holcombe, B. A.	M. A.	Muskogee	<i>I. T.</i>
Pearl Martin, B. S.	M. S.	Fayetteville	Washington.
J. H. Moore, B. S.	Spec.	Fayetteville	Washington.
A. W. Shreve, B. C. E.	B. E. E.	Farmington	Washington.
J. Vandeventer, B. S.	Spec.	Fayetteville	Washington.
Julia Vaulx, B. A.	M. A.	Aspen	<i>Colorado.</i>

SENIORS.

NAME.	COURSE.	POST OFFICE.	COUNTY.
L. R. Ash, B. C. E.	E. E.	Fayetteville	Washington.
J. C. Bell	B. A.	Pontotoc	<i>Mississippi.</i>
E. H. Braly	B. A.	Fayetteville	Washington.
Mallie Dyer	B. A.	Prairie Grove	Washington.
C. J. Eld.	C. E.	Bentonville	Benton.
J. E. Gibson	M. E.	Malvern	Hot Spring.
H. J. Hall	B. A.	Waldron	Scott.
J. D. Head	B. A.	Richmond	Little River.
R. B. Irvin	E. E.	Little Rock	Pulaski.
Abbie Leverett	B. A.	Fayetteville	Washington.
H. P. Mobberly	C. E.	Illawara	<i>Louisiana.</i>
Lucy B. Mock	B. A.	Prairie Grove	Washington.
E. L. Mock	B. A.	Prairie Grove	Washington.
A. J. Myar	C. E.	Little Rock	Pulaski.
R. T. Pittman	B. S.	Fayetteville	Washington.
S. C. Treadwell	B. A.	Toledo	Cleveland.

JUNIORS.

NAME.	COURSE.	POST OFFICE.	COUNTY.
Edna Allen	B. A	Farmington	Washington.
C. P. Barnett.....	E. E.....	Fayetteville	Washington.
Ida Barr	B. S	Fayetteville	Washington.
Mary Beattie	B. A	Fayetteville	Washington.
J. E. Beavers.....	C. E	Charleston	Franklin.
E. Boyd.....	B. A	Cooper	Texas.
Amanda Braly.....	B. S	Fayetteville	Washington.
Etta Braly	B. S	Fayetteville	Washington.
A. M. Briney	B. A	Rogers	Benton.
J. L. Campbell.....	B. A	Greenwood	Sebastian.
C. Davies.....	B. A	Fayetteville	Washington.
Lila Davies	B. A	Fayetteville	Washington.
C. J. Drees	E. E	Little Rock	Pulaski.
D. B. Lipsey	B. S	Lonoke	Lonoke.
J. E. Martineau	B. A	Lonoke	Lonoke.
S. L. Morley.....	B. S	Fort Smith	Sebastian.
J. D. Nash	B. A	Waldo	Columbia.
Maud Nix	B. S	Fayetteville	Washington.
Mollie Remy	B. A	Mulberry	Franklin.
E. R. Robinson	B. A	Lonoke	Lonoke.
F. E. Rudolph	C. E	Galveston	Texas.
C. Russell	B. A	Russellville	Pope.
A. W. Shreve, B. C. E.....	E. E	Farmington	Washington.
Allie Simonds	B. S	Fayetteville	Washington.
A. V. Smith	M. E	Lanark	Bradley.
George Vaughan	B. A	Lockesburg	Sevier.
Kate Vaulx	B. A	Fayetteville	Washington.
Madge Vaulx	B. A	Fayetteville	Washington.
Jennie Williams	B. A	Fayetteville	Washington.
Norma Wood	B. A	Van Buren	Crawford.
W. H. Wood	M. E	Fayetteville	Washington.

SOPHOMORES.

NAME.	COURSE.	POST OFFICE.	COUNTY.
C. D. Adams	B. S	Fort Smith	Sebastian.
W. H. Askew	B. A	Magnolia	Columbia.
C. D. Bates	B. A	Van Buren	Crawford.
T. H. Batten	B. S	Eureka Springs	Carroll.
E. K. Braly	E. E	Fayetteville	Washington.
L. Campbell	B. A	Boonsboro	Washington.
A. B. Crozier	E. E	Fayetteville	Washington.
Ena Davies	B. S	Fayetteville	Washington.
J. H. Davis	E. E	Forrest City	St. Francis.
C. Duncan	B. S	Fayetteville	Washington.
F. P. Earle	B. S	Boonsboro	Washington.

NAME.	COURSE.	POST OFFICE.	COUNTY.
J. H. Godfrey	B. A	Pine Bluff.....	Jefferson.
Gertie Gunter.....	B. S	Fayetteville	Washington.
Lena Hardin.....	B. A	Van Buren.....	Crawford.
Nina Hardin.....	B. A	Van Buren.....	Crawford.
C. D. Head.....	B. A	Richmond	Little River.
J. W. Hicks.....	E. E	Magnolia	Columbia.
J. L. Hudspeth.....	B. A.....	Hamburg	Ashley.
Nellie Hunt.....	B. S.....	Fayetteville	Washington.
S. L. Jeffers .. .	B. A	Ozark .. .	Franklin.
J. M. Kelso.....	B. A	Magnolia	Columbia.
Rose Leverett.....	B. A.....	Fayetteville	Washington.
Storer Leverett.....	C. E.....	Fayetteville	Washington.
A. J. McDaniel.....	C. E	McDaniels	St. Francis.
D. McNeill.....	E. E	Fayetteville	Washington.
T. B. Martin.....	E. E	Little Rock.....	Pulaski.
R. S. Madearis.....	B. A	Cincinnati.....	Washington.
Fannie Mills.....	Normal.....	Little Rock.....	Pulaski.
Mary E. Mitchell.....	Normal.....	Texarkana	Miller.
E. E. Mobberly.....	E. E	Illawara	Louisiana.
J. L. Moore.....	E. E	Cincinnati.....	Washington.
D. C. Morrow.....	E. E	Fayetteville	Washington.
T. M. Norwood.....	Normal.....	Enola	Faulkner.
L. C. Nolan.....	B. A	Sub Rosa.....	Franklin.
Daisy Patterson.....	B. A	Springdale	Washington.
Kate Patterson	B. A	Springdale	Washington.
H. A. Patterson.....	B. A	Springdale	Washington.
A. B. Priddy.....	B. A	Magazine	Logan.
W. E. Pruett.....	C. E.....	Altus .. .	Franklin.
E. L. Rodman.....	B. A	Altus .. .	Franklin.
E. L. Spencer.....	B. A	Charleston	Franklin.
W. M. Spencer.....	M. E	Charleston	Franklin.
A. R. Spencer.....	B. S	Charleston	Franklin.
S. J. Taylor.....	E. E	La Grange	Lee.
B. H. Towery	Irreg.....	Texarkana	Miller.
N. G. Turner.....	B. A	Cypress	Phillips.
Ruby Washington.....	B. S	Fayetteville	Washington.
Hattie Williams.....	B. A	Fayetteville	Washington.

FRESHMEN.

NAME.	COURSE.	POST OFFICE.	COUNTY.
W. H. Abernathy	Agrl	Warren	Bradley.
G. H. Askew.....	B. A	Magnolia	Columbia.
Hattie Babb	B. S	Boonsboro	Washington.
E. M. Baker.....	B. S	Witcherville	Sebastian.
F. Barr	Irreg.....	Fayetteville	Washington.
W. R. Buffington.....	B. A	College Hill	Columbia.

NAME.	COURSE.	POST OFFICE.	COUNTY.
E. W. Bumpass	E. E.....	Beebe	White.
Maude Buchanan.....	Normal.....	Boonsboro	Washington.
H. P. Buck	M. E.....	Sugar Grove.....	Logan.
Blanche Byars.....	Normal.....	Alma	Crawford.
C. G. Bray	Normal.....	Beverly	Sebastian.
A. W. Bevers	B. A.....	Hindsdale	Madison.
W. T. Chamness	B. A.....	Center Ridge	Conway.
W. D. Chew	B. A.....	El Dorado	Union.
R. C. Clark	B. A.....	Hindsdale	Madison.
S. L. Cookson.....	M. E.....	Fayetteville	Washington.
A. B. Cory	E. E.....	Fayetteville	Washington.
Mary Crawford.....	Normal.....	Boonsboro	Washington.
R. N. Cummings	B. A	Hindsdale	Madison.
Anna Dean	Normal.....	Fayetteville	Washington.
Maude Davis	B. A.....	Fayetteville	Washington.
Eleanor Duncan.....	B. A.....	Fayetteville	Washington.
J. D. Ferguson	B. A.....	Genoa	Miller.
W. M. Fishback	E. E.....	Fort Smith	Sebastian.
Charlotte Gallaway	B. A.....	Fayetteville	Washington.
H. W. Gates	B. S.....	Fayetteville	Washington.
J. H. Grimmett	B. A.....	Magnolia	Columbia.
J. M. Guilliams	Agrl	Farmington	Washington.
T. L. Haynes	B. A.....	Cleveland	Conway.
J. D. Harkey	B. S	Russellville	Pope.
C. H. Henderson	B. A.....	Pocahontas	Randolph.
E. M. High	B. A.....	Lonoke	Lonoke.
T. R. Hill	B. A.....	Franklin	Izard.
S. B. Hill	B. A.....	Franklin	Izard.
Joe Belle Holcomb	B. A.....	Fayetteville	Washington.
J. R. Howard	E. E.....	Malvern	Hot Spring.
Carrie Howell	B. A.....	Fayetteville	Washington.
W. Howell	B. S.....	Fayetteville	Washington.
L. P. Jacobs	M. E	Mulberry	Franklin.
D. F. Johnson	B. A	Cauthron	Scott.
Mattie Kantz	B. A.....	Fayetteville	Washington.
Mary Kantz	B. A.....	Fayetteville	Washington.
Dorothy Lackey	B. A.....	Fayetteville	Washington.
Annie Lackey	B. A.....	Fayetteville	Washington.
H. Leach	E. E.....	Conway	Faulkner.
L. Lewis	B. A.....	Fayetteville	Washington.
A. C. Martineau	B. A.....	Lonoke	Lonoke.
W. P. Mason	B. A.....	Memphis	Tennessee.
May McNair	B. S.....	Fayetteville	Washington.
A. J. Moore	B. A.....	Cincinnati	Washington.
A. T. Moore	M. E	Cincinnati	Washington.
Martha Moore	B. S	Cincinnati	Washington.
G. Nicholls	B. A	Helena	Phillips.

NAME.	COURSE.	POST OFFICE.	COUNTY.
Ada Pace	B. A . . .	Harrison	Boone.
R. E. Philbeck	B. A . . .	Fayetteville	Washington.
T. T. Pile	B. A . . .	Van Buren	Crawford.
B. V. Powell	B. S . . .	Wild Oak	Ouachita.
Nellie Powell	B. S . . .	Montreal	Sebastian.
L. R. Putman	M. E . . .	Fayetteville	Washington.
Emily Read	Normal	Fayetteville	Washington.
H. H. Rightor	B. A . . .	Helena	Phillips.
W. J. Rudolph	C. E . . .	Fayetteville	Washington.
Addie Sellers	B. A . . .	Perryville	Perry.
R. Shaha	B. A . . .	Winslow	Washington.
Olive Silsby	B. A . . .	Springdale	Washington.
T. W. Simpson	B. A . . .	Franklin	Izard.
J. M. Simpson	Normal	El Dorado	Union.
J. E. Skelton	B. S	Fayetteville	Washington.
W. N. Smith	E. E	Haynes	Lee.
J. H. Snapp	C. E	Snapp's	Woodruff.
Mamie Spencer	B. A	Fayetteville	Washington.
I. F. Stewart	B. A	Springdale	Washington.
A. Stubblefield	Agrl	Cassville	Missouri.
J. F. Summers	B. A	Forrest City	St. Francis.
Mattie Taylor	B. S	Fayetteville	Washington.
Rosa Taylor	B. A	Fayetteville	Washington.
Anna Thomasson	Normal	Odessa	Missouri.
B. W. Thomas	Normal	Fayetteville	Washington.
M. F. Treadwell	B. A	Fine Bluff	Jefferson.
Birdie Vaughan	Normal	Lockesburg	Sevier.
Stella Watkins	B. A	Fayetteville	Washington.
W. C. Ward	Normal	Mulberry	Franklin.
T. J. Wear	B. A	Paris	Logan.
F. B. Young	Irreg	Springdale	Washington.

SPECIAL.

NAME.	POST OFFICE.	COUNTY.
Fannie Botefuhr	Fayetteville	Washington.
C. H. Drake, B. C. E	Cincinnati	Washington.
O. Gates	Fayetteville	Washington.
Ethel Gray	Fayetteville	Washington.
Lyda Harrison	Fayetteville	Washington.
Eva Lea	Fayetteville	Washington.
B. C. McDearmon	Batesville	Independence
J. H. Moore, B. S	Fayetteville	Washington.
Effie Ostrander	Fayetteville	Washington.
Ellen Simonds	Fayetteville	Washington.
Mrs. Annie Stapp	Fayetteville	Washington.
Mattie Taylor	Fayetteville	Washington.
Mollie Vaughan	Fayetteville	Washington.

NAME.	POST OFFICE.	COUNTY.
J. Vandeventer, B. S.....	Fayetteville	Washington.
Eddie Wade	Fayetteville	Washington.
Mrs. A. D. Ward	Fayetteville	Washington.
E. L. Watson	Newport	Jackson.
Matie Williams.....	Fayetteville	Washington.
Gertie Smith.....	Fayetteville	Washington.
Margaret Kantz	Fayetteville	Washington.
Fannie Kemp.....	Fayetteville	Washington.
Grace Meigs	Siloam Springs.....	Benton.
Eugenia Wilson	Fayetteville	Washington.
Mary Grother	Fayetteville	Washington.

SUMMARY BY CLASSES.

Graduates	11
Seniors	16
Juniors	31
Sophomores	48
Freshmen	85
Special	24
Irregular	2
Total	217
Counted twice	6
	211

SUMMARY BY COURSES.

Master of Arts	5
Master of Science	1
Bachelor of Arts	91
Bachelor of Science	28
Bachelor of Civil Engineering.....	10
Bachelor of Electrical Engineering	23
Bachelor of Mechanical Engineering.....	9
Agricultural	3
Normal	14
Special	24
Irregular	3
Total	211

ALUMNI ASSOCIATION.

The object of this association is to maintain the interest of the graduates in the institution and bring them into closer relation with the University. To this end all graduates are considered members. The association holds meetings annually during commencement week. The officers of the association for 1894 are:

J. N. TILLMAN, President.

MISS MATTIE PATTON, Secretary.

Committee on Banquet:

J. V. WALKER, G. W. DROKE, MRS. J. F. MAYES, MISS JESSIE CRAVENS.

Committee on Speaker:

J. F. MAYES, DR. A. S. GREGG, B. F. WOOD.

LIST OF ALUMNI.

Don C. B. Aiken, C. E., '89, Eng. Dep., Johnston Co., Johnstown, Pa.

L. S. Anderson, B. L. L., '84, Clerk in land office, Washington, D. C.

J. D. Arbuckle, B. A., '92, Principal Public Schools, Magazine, Ark.

C. F. Armistead, B. A., '93, Instructor in German, Fort Smith High School,
Fort Smith, Ark.

L. R. Ash, C. E., '93, Student at Ark. Ind. University.

C. O. Bates, A. B., '83, Prof. of Chemistry, Coe College, Cedar Rapids, Ia.

J. H. Bates, B. A., '86, Lawyer, Corsicana, Tex.

Nettie Bennett, B. L., '76, Mrs. C. E. Boles, Fayetteville, Ark.

Blanche Bibb, B. A., '93, Fayetteville, Ark.

J. W. Black, B. A., '92, Law Student, University of Michigan.

W. J. Blackwell, B. C. E., '92, Engineer, Golden Lake, Ark.

Nora Blakely, A. B., '78, Mrs. H. M. Hudgins, Hot Springs, Ark.

W. P. Booth, A. B., '82, Farmer, Reyno, Ark.

Alice Borden, '77.

Laura D. Botefuhr, '75, Mrs. G. W. Schulte, Fort Smith, Ark.

Preston Bowles, B. C. E., '88, W. Va. Central R. R., Elkins, W. Va.

O. P. Brewer, B. S., '93, Webbers Falls, I. T.

W. D. Brown, A. B., '82, Physician, Newtonia, Mo.

H. M. Butler, A. B., '79, Real Estate Agent, Washington.

E. B. Corden, B. L., '77, Deceased

Ella Carnall, A. M., '81, Associate Professor, A. I. U., Deceased.

- A. H. Carrigan, A. B., '82, Lawyer, Wichita Falls, Tex.
Ann E. Carson, '75, Mrs. Jno. Knight, Jonesboro, Ark.
Augusta O. Carson, '75, Mrs. T. W. Cline, Downey, Cal.
C. K. Chausler, A. B., '82, Lawyer, Grant's Pass, Oregon.
W. R. Cherry, A. B., '82, Bank Cashier, Paris, Tex.
Jessie Cravens, B. L. L., '83, Instructor in Elocution, Ark. Ind. University.
Wm. N. Crozier, B. A., '88, Missionary to China.
Lula Curry, B. S., '92, Mrs. G. L. Teller, Fayetteville, Ark.
Mike Danaher, B. A., '88, Lawyer, Little Rock, Ark.
Hadge Davies, B. A., '93, Instructor in Anglo-Saxon and English Literature,
 Augusta Female Seminary, Staunton, Va.
Lizzie P. Davis, '75, Mrs. R. C. Brown, Florence, Arizona.
W. E. Dixon, B. A., '88, Teacher in Waldo, Ark.
C. H. Drake, B. C. E., '91, Cincinnati, Ark.
W. F. Drake, B. C. E., '88, Asst. State Geologist, Austin, Tex.
G. W. Droke, A. M., '80, Asso. Prof. of Mathematics, Ark. Ind. University.
W. H. Duncan, B. L. L., '84, Lawyer, Conway, Ark.
W. L. Edmiston, B. L. L., '84, Supt. Schools, Van Buren, Deceased.
F. W. Ellis, A. B., '81, U. S. Signal Service, Galveston, Tex.
W. W. England, A. B., '83, U. S. Coast Survey.
L. F. Fishback, B. S., '89, Lawyer, Wichita Falls, Tex.
J. C. Floyd, A. B., '79, Lawyer at Yellville, Ark.
W. M. Flynn, B. A., '88, Teacher.
J. R. Gannaway, B. A., '90, Warren, Ark.
D. A. Gales, A. B., '84, County Judge Desha Co., Arkansas City, Ark.
W. P. Goodwin, B. L. L., '84, Editor, El Dorado, Ark.
Belle L. Gorton, A. B., '76, Author, Chicago, Ill.
C. D. Greaves, A. B., '83, Lawyer, Hot Springs, Ark.
Alfred W. Gregg, A. B., '76, Deceased.
Andrew S. Gregg, A. B., '78, Physician, Fayetteville, Ark.
L. W. Gregg, A. B., '82, Lawyer, Fayetteville, Ark.
C. E. Hall, B. C. E., '93, Dardanelle, Ark.
W. J. Hamilton, B. A., '92, Prin. Public School, La Grange, Ark.
Agnes Harris, A. B., '76, Mrs. Johnson, Kansas City, Mo.
Sara E. Harris, A. B., '76, Mrs. S. H. Conrad, Osceola, Mo.
Grace Harrison, B. S., '89, Mrs. T. L. Brown, Greenwood, Ark.
J. H. Harrod, A. B., '79, Lawyer, Little Rock, Ark.
J. C. Hart, A. B., '85, Lawyer, Dardanelle, Ark.
F. L. Harvey, Ph. D., '90, Prof. Maine Agricultural College, Orono, Me.
J. T. Hawkins, '77, Physician, Mount Holly, Ark.
I. G. Hedrick, B. C. E., '92, Civil Engineer, Kansas City, Mo.
W. Rhodes Hervey, B. S., '90, Lawyer.
E. W. Hillis, B. L. L., '84, Lawyer, Jonesboro, Ark.
J. H. Hobbs, A. B., '88, Lawyer, San Antonio, Tex., Deceased.
Daniel Hon, A. B., '82, Lawyer, Waldron, Ark.
Cener Holcomb, B. A., '92, Teacher, Harrell Institute, Muskogee, I. T.
S. A. Horton, B. A., '91, Lawyer, Fairview, Ark.
J. W. Howell, B. L. L., '85, Cotton Buyer, Clarksville, Ark.

- J. H. Hudson, B. L. L., '84, Farmer, Dardanelle, Ark.
G. A. Humphrey, A. B., '90, Medical Student, New York.
Edgar Jennings, A. B., '77, Fayetteville, Ark.
Gustave Jones, B. L. L., '82, Lawyer, Newport, Ark.
Albert P. Johnson, A. B., '76, Lawyer, Winfield, Kan.
T. M. Johnson, B. L. L., '88.
G. H. Kimball, B. C. E., '92, Auditor of the D. & P. R. R., Dardanelle, Ark.
Artelle Alice King, B. L. L., '80, Mrs. J. C. Belt, Brooken, I. T.
E. B. Kinsworthy, B. L. L., '85, Attorney General of the State of Arkansas.
T. B. Kitchens, A. M., '80, County and Circuit Clerk, Paragould, Ark.
Ella Lake, B. L. L., '84, Viney Grove, Ark.
W. H. Langford, A. B., '80, Merchant, Pine Bluff, Ark.
J. A. M. Lanier, A. B., '82, Prin. Mountain Home Academy, Mountain Home, Ark.
Mary Leverett, B. A., '86, Mrs. J. A. Taff, Washington, D. C.
Eva McCart, '75, Mrs. D. M. Main, Cheney, Kan.
J. B. McDorough, A. B., '82, Prosecuting Attorney, Twelfth Circuit, Fort Smith, Ark.
W. R. McFarlane, A. B., '82, Lawyer, Greenwood, Ark.
Chas. F. McKinney, '75, Traveling Salesman, Ozark, Ark.
Jno. C. McFeeley, B. C. E., '89, Planter, Rackensack, Ark.
S. E. Marrs, A. B., '79, Editor of The Democrat, Fayetteville, Ark.
J. C. Marshall, A. M., '79, Lawyer at Little Rock, Ark.
Mack Martin, B. M. E., '91, Asst. Supt. of Mech. Arts, A. I. U.
Pearl Martin, B. S., '93, Student at A. I. U. Fayetteville, Ark.
Collin Massie, A. B., '77, Prin. Public School, Van Buren, Ark.
J. F. Mayes, A. B. '83, Lumber Dealer, Fayetteville, Ark.
W. M. Mellette, B. L., '77, Lawyer, Fort Smith, Ark.
Mai Middleton, A. B., '86, Mrs. R. Chasteen, Fort Smith, Ark.
J. F. Moore, B. S., '93, Asst. Chemist, Agri. Exper. Sta., Fayetteville, Ark.
J. H. Moore, B. S., '93, Student at Harvard University, Cambridge, Mass.
J. I. Moore, A. B., '81, Lawyer, Helena, Ark.
Lucy J. Moore, '75, Mrs. Ross, Cincinnati, Ark.
Mattie M. Morrow, B. S., '90, Teacher in Public School, Fayetteville, Ark.
Sara Mulholland, A. B., '86, Mrs. J. F. Mayes, Fayetteville, Ark.
W. H. Neal, B. L., '76, Lawyer, Van Buren, Ark.
A. J. Newman, B. A., '91, Teacher in Texas.
E. P. Notrebe, '85, Springfield, Mo.
T. F. Oats, A. B., '82, Physician in Mexico, Tex.
Ora Obenshain, B. S., '89, Teacher in Public School, Eureka Springs, Ark.
Ida Pace, B. A., '88, Asso. Prof. of English and Modern Languages, A. I. U.
C. C. Patton, B. A., '91, Cincinnati, Ohio.
L. Alice Patton, A. M., '79, Teacher, Prairie Grove, Ark.
Mattie J. Patton, B. L. L., '80, Teacher, Prairie Grove, Ark.
Thos. A. Pettigrew, A. M., '78, Lawyer, Charleston, Ark.
Harry Pharr, B. C. E., '93, Civil Engineer on the levee, Golden Lake, Ark.
J. S. Pharr, B. A., '92, Engineer.
J. W. Pickel, A. B., '82, Physician for Crystal Plate Glass Co., Crystal City, Mo.

- Alice Polson, B. S., '88, Stenographer, St. Louis, Mo.
W. W. Powell, B. A., '88, Washington, D. C.
Anna Putman, A. M., '75, Teacher in Public School, Fayetteville, Ark.
G. W. M. Reed, Jr., B. L. L., '84, Lawyer, Los Angeles, Cal.
Lina Reed, A. B., '81, Teacher, Los Angeles, Cal.
Maggie Reed, A. B., '78, Deceased.
O. S. Rief, A. B., '81, Lawyer, Little Rock, Ark.
P. A. Rogers, A. B., '82.
T. C. Ross, A. B., '80, Lawyer, Fort Worth, Tex.
Lawrence Russell, A. B., '80, Lawyer, Russellville, Ark.
G. C. Schoff, B. C. E., '88, Civil Engineer, Philadelphia, Penn.
G. C. Shell, B. L. L., '82, Lawyer, Lake Village, Ark.
A. W. Shreve, B. C. E., '91, Farmington, Ark.
H. B. Shreve, B. C. E., '91, With Johnson & Co., Johnstown, Pa.
W. D. Simms, B. L., '77, Deceased.
G.V. Skelton, B. C. E., '91, Prof. of Civil Eng., Coe. College, Cedar Rapids, Ia.
Ida Slagle, B. A., '89, Mrs. Gilbreath, Hico, Ark.
Henry Stroup, A. B., '83, Editor, Roseville, Ark.
Wm. S. Sutton, A. M., '78, Supt. Schools, Houston, Tex.
Albert Taff, B. C. E., '90, Deceased.
J. L. Taff, A. B., '84, Prin. Public School, Austin, Tex.
Mary Taff, B. A., '89, Mrs. G. V. Skelton, Cedar Rapids, Ia.
Lou Taliaferro, B. L. L., '83, Stenographer, Chicago, Ill.
E. L. Taylor, B. L., '76, Bentonville, Ark.
C. V., Teague, A. B., '79, Prosecuting Attorney, Hot Springs, Ark.
B. J. Tillar, B. A., '86, Lawyer, Little Rock, Ark.
J. N. Tillman, B. L. L., '80, Prosecuting Attorney, Fayetteville, Ark.
Lee Treadwell, B. C. E., '88, Asst. Eng. for J. A. C. Waddell, Kansas
City, Mo.
A. M. Vance, B.C. E., '93, Pierce City, Mo.
James Vandeventer, B. S., '93, Graduate Student, Ark. Ind. Univ.
S. F. Vaulx, B. A., '92, Memphis, Tenn.
Julia Vaulx, B. A., '92, Teacher Public School, Aspen, Col.
Annie Waggener, B. L., '77, Teacher in Public School, Del Norte, Col.
W. J. Waggener, A. M., '76, Prof. Nat. Philosophy, Univ. of Colorado,
Boulder, Col.
J. V. Walker, A. B., '77, Lawyer, Fayetteville, Ark.
C. A. Watson, A. B., '77, Teacher, Fayetteville, Ark.
J. J. Watson, A. B., '81, Teacher, Australia.
G. A. Warren, B. L., '88, Physician, Little Rock, Ark.
J. N. Wheeler, B. A., '90, Merchant, Warren, Ark.
Naomi J. Williams, A. M., '80, Instructor in Ark. Ind. Univ.
A. C. Wood, B. M. E., '92, Civil Engineer, Philadelphia, Pa.
B. F. Wood, B. E. E., '93, Elect. Eng., Philadelphia, Pa.
C. D. Wood, A. B., '79, Associate Justice Supreme Court of Ark.
W. H. Woodall, A. B., '85, Pres. of Female College, Lake City, Fla.
C. D. Woolverton, B. LL., '85, Prin. Schools, Sheridan, Ark.

PREPARATORY DEPARTMENT.

INSTRUCTORS.

B. J. DUNN, Principal, Instructor in Mathematics and Latin.
G. A. COLE, Instructor in Mathematics.
MARY E. WASHINGTON, Instructor in Geography and English.
NAOMI J. WILLIAMS, Instructor in Latin and History.
MRS. E. W. COLE, Instructor in History and Mathematics.
MARY DAVIS, Instructor in English.
JESSIE L. CRAVENS, Instructor in Elocution. ✓
W. B. BENTLEY, Acting Instructor in Chemistry.
GEORGE W. DROKE, Acting Instructor in Mathematics.
S. E. MEEK, Acting Instructor in Physiology.
W. N. GLADSON, Acting Instructor in Drawing.
W. F. BATES, Instructor in Agriculture.
Belle WILSON, Instructor in Instrumental Music.
Mrs. A. D. DAVIS, Instructor in Vocal Music.
F. P. NICHOLAS, Instructor in Woodworking.
G. W. BASHAW, Instructor in Foundry and Forging.
A. V. SMITH, Assistant in Mathematics.
MALLIE DYER, Assistant in English.
J. D. HEAD, Assistant in Latin.

The Preparatory Department is intended, first, to prepare students for any of the courses of study taught in the University; second, to furnish to those who cannot take a more extended course, as good a general education as the limited time will permit; third, to prepare teachers for the public grammar schools of the State. To secure these ends, three courses of study are offered.

REQUIREMENTS OF ADMISSION.

I. *Arithmetic*.—Students are examined in Wentworth's Grammar School Arithmetic through percentage, and an accurate knowledge of all this is rigidly required.

Teachers preparing pupils for admission should require them to learn principles and definitions accurately and to analyze every example capable of analysis, or should give them thorough drill in mental arithmetic. In 1896 the whole of arithmetic will be required.

2. *English Grammar*.—Harvey's Elementary Grammar and Composition, Part I., with analysis. In 1896 Maxwell's Elementary Grammar.

3. *Geography*.—The whole of some complete manual of Geography, such as Maury's or Harper's.

4. *Reading*.—Students must be able to understand and to read intelligently specimens from McGuffey's Fifth Reader or from some work equally advanced.

5. *Spelling*.—Of any words contained in McGuffey's Fifth Reader.

For expenses see page 33.

NOTE.—Candidates for second year, general course, will be examined in Arithmetic, Algebra to fractions, Harvey's Elementary Grammar, Part II.; History of the United States and of Arkansas, Descriptive Geography, and Latin (first seventy-five lessons in Jones's). In 1896, Tuell and Fowler's First Book in Latin.

Agricultural, scientific, and engineering students are exempt from the Latin examination, having one on Botany (in 1896, Physical Geography), and Bookkeeping instead. Students entering after the session has begun will be examined also on the work passed over by their class.

ORDER OF EXAMINATIONS FOR ADMISSION.

Tuesday, March 5, 9 a. m.: Registration of all students who are required to matriculate.

Wednesday, March 6, 9-12 m.: Registration of other students; 1-4 p. m.: Algebra, Geography.

Thursday, March 7, 9-12 m.: Arithmetic; 1-4 p. m.: Latin, History of Arkansas, Reading.

Friday, March 8, 9-11 a. m.: English Grammar; 11-12 m.: English Composition, Reading; 1-4 p. m.: United States History, General History, Reading.

DETAILED WORK OF THE COURSES.

SECOND YEAR.

Mathematics, 5.—First and second terms: Wentworth's High School Arithmetic, page 273 to end: Wentworth's Algebra, pages 130 to 260. Third term: Wentworth's Geometry, 4 books.

English, 4.—Raub's Rhetoric; four essays per term corrected and copied; Shakespeare's Julius Cæsar and Tempest and Scott's Ivanhoe.

Parallel Reading: Eggleston's Pocahontas; Cooke's Surrey of the Eagle's Nest; Franklin's Autobiography; Longfellow's Morituri Salutamus, and Voices of the Night; Campbell's Gertrude of Wyoming.

Latin, 4.—Four books of Caesar (Harper and Tolman) or an equivalent; Gildersleeve's Grammar; Jones's Lessons completed.

History, 3.—Barnes's General History.

Physiology, 2.—Martin's Human Body, Briefer Course, with experiments.

Chemistry, twice a week.—William's Introduction to Chemical Science; lectures and written work.

Civil Government, 1.—Peterman's Civil Government and Johnson's History of American Politics.

Founding, 4.—Moulding; melting and pouring brass and iron; management of cupola. Bolland's Iron Founding; lectures and practice.

Elementary Dairy Husbandry.—The primary principles of dairy work are taught by class-room instruction, accompanied with daily practical work in the dairy.

Forging, 4.—Management of fire; drawing; welding; riveting; tempering. Lectures and practice.

Mechanical Drawing, 2.—Drawings of machine parts; lettering; line shading, etc.

FIRST YEAR.

Mathematics, 5.—Wentworth's High School Arithmetic, page 120 to page 273; Wentworth's Algebra to page 130.

English, 4.—First term: Maxwell's Advanced Grammar; Irving's Alhambra and Kingsley's Greek Heroes; three original essays per term, corrected and copied.

Parallel Reading.—Cooper's Spy, and Red Rover; Longfellow's Evangeline; Whittier's Lexington and Yorktown; Shakespeare's Comedy of Errors; lives of the above authors.

Latin, 4.—Tuell and Fowler's First Book in Latin.

History, 3.—Chambers' United States History and Hempstead's History of Arkansas.

Physical Geography, 3.—Maury's Physical Geography.

Bookkeeping.—Messervey's Bookkeeping.

Woodworking, 8.—Principles of carpentry and joinery; wood turning; pattern making; cabinet work. Sickel's Exercises in Woodworking.

Elementary Agriculture.—The reasons for the various farm operations, and the conditions under which they can be most successfully accomplished form the subject matter of the instruction.

Freehand Drawing, 2.—Practice work; outline drawing from models and machine parts; plans, elevations, sections, dimensions, etc.

AGRICULTURAL COURSE.

This course prepares students for the School of Agriculture.

FIRST YEAR.	Hours per week.	SECOND YEAR.	Hours per week.
Mathematics	5	Mathematics	5
English	4	English	4
History	3	History	3
Physical Geography.....	3	Chemistry	2
Agriculture	2	Physiology	2
Farm or Shop Work	4	Agriculture	2
		Farm or Shop Work	4

ENGINEERING AND MECHANIC ARTS COURSE.

FIRST YEAR.	Hours per week.	SECOND YEAR.	Hours per week.
Mathematics	5	Mathematics	5
English	4	English	4
History	3	History	3
Bookkeeping.....	1	Civil Government.....	1
Drawing	1	Physiology	2
Woodworking	4	Drawing.....	1
		Founding.....	2
		Forging	2

NOTE.— Candidates for admission to the Freshmen Class in the College of Mechanic Arts and Engineering will be examined in all the subjects required for admission to the University, except Latin.

GENERAL COURSE.

This course prepares students for the College of Liberal Arts or the College of Science or for the Normal School. It gives a limited general education to students who cannot take a collegiate education.

FIRST YEAR.	Hours per week.	SECOND YEAR.	Hours per week.
Mathematics	5	English	4
English	4	History	3
History	3	Physiology	2
Latin	4	Latin	4
		Mathematics	5

NOTE.—If a student is preparing to enter the College of Science, he may substitute Bookkeeping and Physical Geography for first Latin, and Chemistry and Agriculture (or Civil Government) for second Latin.

Special courses of study are not allowed in the Preparatory Department, but students known to be in poor health or having physical defects which interfere with their studies, are sometimes permitted by the faculty to defer one or more subjects of study and extend the course over a longer period.

Students who have at any time been enrolled in the Preparatory Department, must complete all the studies in one of its courses before dropping preparatory work; and studies in lower classes have precedence over higher ones. A student in the Preparatory Department is a member of the highest class with which he has as many as eight recitations per week.

PREPARATORY STUDENTS.

ABBREVIATIONS: A., Agricultural; G., General; E., Engineering.

SECOND YEAR.

NAME.	COURSE.	POST OFFICE.	COUNTY.
E. B. Adkisson.....	A.....	Mt. Vernon.....	Faulkner.
Gertrude Ash.....	G.....	Fayetteville	Washington.
W. E. Ayers	E.....	Osceola	Mississippi.
L. W. Baker	A.....	Snowball	Searcy.
N. A. Baker.....	E.....	Snowball	Searcy.
Minnie Baker.....	G.....	Witcherville	Sebastian.
Ada Baldwin	G.....	Mansfield	Sebastian.
Kate Barry	G.....	Fayetteville	Washington.
J. M. Baum	G.....	Fayetteville	Washington.
J. L. Bean.....	G.....	Boonsboro	Washington.
L. L. Beavers	E.....	Waldron	Scott.
Lillian Bibb.....	G.....	Fayetteville	Washington.
E. W. Bray	E.....	Beverly	Sebastian.
Eva Broadrick.....	G.....	Fayetteville	Washington.
Florence Buchanan.....	G.....	Boonsboro	Washington.
Grace P. Buchanan.....	G.....	Fayetteville	Washington.
T. F. Buttram.....	G.....	Brightwater	Benton.
E. Carney	A.....	Prairie Grove	Washington.
J. B. Cawood	E.....	Osage Mills	Benton.
C. H. Chastain.....	G.....	Bentonville	Benton.
C. A. Chasteen	G.....	Fayetteville	Washington.
Nellie Clancy.....	G.....	Fayetteville	Washington.
P. Clayton	E.....	Eureka Springs	Carroll.
C. D. Coffey	G.....	Fayetteville	Washington.
C. E. Cole	E.....	Dardanelle	Yell.
Lilly Cole.....	G.....	Dardanelle	Yell.
Lizzie Cole	G.....	Dardanelle	Yell.
Mattie Cole	G.....	Boonsboro	Washington.
Agnes Conner.....	G.....	Fayetteville	Washington.
H. J. Cory.....	A.....	Robinson	Benton.
H. W. Cravens.....	G.....	Hartman	Johnson.
Merle Curry	G.....	Fayetteville	Washington.
E. R. Curry.....	E.....	Fayetteville	Washington.
E. W. Curry	E.....	Fayetteville	Washing'on.
Fannie Davenport.....	G.....	Fayetteville	Washington.

NAME.	COURSE.	POST OFFICE.	COUNTY.
Bertha Deaver.....	G.....	Springdale	Washington.
D. E. Dean.....	A.....	Fayetteville	Washington.
Maud Easterly	G.....	Fayetteville	Washington.
Maggie Ellis.....	G.....	Fayetteville	Washington.
Sallie Evins.....	G.....	Fayetteville	Washington.
H. Y. Fishback	E.....	Fort Smith	Sebastian.
C. S. Fitzpatrick	G.....	Helena	Phillips.
C. D. Frierson	G.....	Jonesboro	Craighead.
Lettie Gaskell	G.....	Fayetteville	Washington.
Estelle Gee.....	G.....	Fayetteville	Washington.
A. S. Hagood.....	G.....	Boonsboro	Washington.
Minnie Hagood	G.....	Boonsboro	Washington.
Hattie Hall	G.....	Cauthron	Scott.
Kate Hardin	G.....	Fayetteville	Washington.
Josie Harris	G.....	Fayetteville	Washington.
C. Head	E.....	Richmond	Little River.
J. F. Hight	G.....	Wesley	Madison.
Lola Hill	G.....	Winslow	Washington.
E. Hinman	E.....	Wade	Missouri.
L. H. Ingraham	G.....	Lavaca	Sebastian.
D. Jones.....	E.....	Fayetteville	Washington.
T. F. Jones	E.....	Fayetteville	Washington.
R. A. Jones	A.....	Three Creeks....	Union.
R. C. Jones	E.....	Three Creeks	Union.
Bessie Kell.....	G.....	Fayetteville	Washington.
T. M. Kelly	E.....	Brinkley	Monroe.
N. D. Kimbrough	G.....	Van Buren	Crawford.
F. B. Kirby	G.....	Harrison	Boone.
Emma Lamb	G.....	Poplar Grove	Phillips.
Ida Lawshe	G.....	Fayetteville	Washington.
Linn Lewis	G.....	Fayetteville	Washington.
S. O. Lewis	G.....	Calhoun	Columbia.
C. W. Lindsay	G.....	Little Rock	Pulaski.
Marguerite Long	G.....	Fayetteville	Washington.
Hettie Lowe	G.....	Fayetteville	Washington.
Lula Luther	G.....	Fayetteville	Washington.
C. B. Lyle	G.....	Magnolia	Columbia.
J. B. Macey	E.....	Viney Grove	Washington.
J. E. Malone	G.....	Hackett	Sebastian.
Cora Mayes	G.....	Fayetteville	Washington.
Pauline Mayes	G.....	Fayetteville	Washington.
Mary May	G.....	Fayetteville	Washington.
Carrie McClanahan	G.....	Fayetteville	Washington.
W. T. McClanahan	E.....	Fayetteville	Washington.
P. J. McClure	G.....	Slatonville	Sebastian.
Kate McIlroy	G.....	Fayetteville	Washington.
G. J. McNew	E.....	Panola	Lonoke.

NAME.	COURSE.	POST OFFICE.	COUNTY.
E. McPhetridge	G	Dallas	Polk.
H. A. Melton	E	Fayetteville	Washington.
Amanda Moore	G	Fayetteville	Washington.
H. D. Moore	G	Helena	Phillips.
F. N. Moore	E	Cincinnati	Washington.
Mamie Mooring	G	Fayetteville	Washington.
Agnes Morrow	G	Cincinnati	Washington.
Cordia Morrow	G	Cincinnati	Washington.
J. A. Morrow	E	Hubbard	Washington.
Lulu Morrow	G	Fayetteville	Washington.
M. Murfee	E	Fayetteville	Washington.
P. Norman	G	Seba	Benton.
Maud Obenshain	G	Eureka Springs	Carroll.
May Obenshain	G	Eureka Springs	Carroll.
Bessie Olliver	G	Fayetteville	Washington.
Kate Oliver	G	Fayetteville	Washington.
O. J. Owens	G	Fayetteville	Washington.
Kate Pace	G	Harrison	Boone.
D. G. Payne	E	Monticello	Drew.
Nellie Pettigrew	G	Fayetteville	Washington.
J. A. Pierce	G	Yellville	Marion.
Electa Piercy	G	Beebe	White.
May Polson	G	Viney Grove	Washington.
G. Pond	G	Fayetteville	Washington.
J. O. Porter	E	Highland	Sharp.
R. C. Prewitt	E	Osceola	Mississippi.
Celeste Pugh	G	Bentonville	Benton.
Cynthia Pugh	G	Bentonville	Benton.
Lizzie Purdy	G	Fayetteville	Washington.
C. D. Rainwater	G	Camden	Ouachita.
R. E. Rogers	A	Siloam Springs	Benton.
Lucy Ross	G	Boonsboro	Washington.
Florence Rosser	G	Fayetteville	Washington.
Kate Sappington	G	Clarkesburg	Missouri.
R. L. Saxon	E	Smackover	Union.
A. C. Seawel	G	Yellville	Marion.
W. L. Seawel	E	Yellville	Marion.
Florence Severs	G	Muskogee	Indian Ter.
J. Seymore	E	Kingsland	Cleveland.
Dora Shanon	G	Fayetteville	Washington.
J. A. Skillern	G	Fayetteville	Washington.
Nellie Stanford	G	Fayetteville	Washington.
J. F. Stanford	G	Fayetteville	Washington.
May Stone	G	Fayetteville	Washington.
H. G. Taylor	E	Beebe	White.
A. S. Thompson	A	Boonsboro	Washington.
Eva Thompson	G	Greenwood	Kansas.

NAME.	COURSE.	POST OFFICE.	COUNTY.
J. E. Thurman.....	E.....	Fayetteville	Washington.
J. W. Thurman.....	E.....	Fayetteville	Washington.
Sarah Thurman	G.....	Fayetteville	Washington.
Clara Tilley.....	G.....	Fayetteville	Washington.
Mary Tilley.....	G.....	Fayetteville	Washington.
T. T. Varner	G.....	Fayetteville	Washington.
L. S. Vedder	E	Fayetteville	Washington.
Jeane Vincenheller	G.....	Little Rock.....	Pulaski.
J. S. Wade	E.....	Fayetteville	Washington.
S. A. Warner.....	G.....	Jonesboro	Craighead.
J. L. Warren	G	Buckner	Columbia.
Winona Wiley.....	G.....	Fayetteville	Washington.
Georgia Williams	G.....	Fayetteville	Washington.
Ione Williams.....	G	Fayetteville	Washington.
F. E. Wilson	E	Prairie Grove	Washington.
J. M. York	E	Prairie Grove	Washington.

FIRST YEAR.

NAME.	COURSE.	POST OFFICE.	COUNTY.
R. Algire.....	E	Fayetteville	Washington.
W. B. Armstrong	G	El Dorado	Union.
T. B. Arnn	A	Sidney	Sharp.
T. P. Atkinson	E	Fordyce	Dallas.
H. C. Barnes	E	Charleston	Franklin.
Madge Bates	G	Fayetteville	Washington.
J. C. Bell	E	Fayetteville	Washington.
W. K. Bell	G	Greenwood	Sebastian.
Hattie Bell	G	Fayetteville	Washington.
J. I. Blair	E	Fayetteville	Washington.
G. B. Bolton	A	Plymouth	Franklin.
G. Bourland	G	Little Rock	Pulaski.
A. L. Bowers	G	Panola	Lonoke.
E. T. Brown	A	Sweet Home	Pulaski.
J. A. Brown	A	Sweet Home	Pulaski.
Mary Brown	G	Fayetteville	Washington.
J. H. Butram	G	Brightwater	Benton.
Mary Butram	G	Brightwater	Benton.
F. W. Byars	E	Alma	Crawford.
Bessie Byrnes	G	Fayetteville	Washington.
Nellie Byrnes	G	Fayetteville	Washington.
Effie Campbell	G	Fayetteville	Washington.
L. R. Campbell	G	Van Buren	Crawford.
G. B. Carruth	A	Fayetteville	Washington.
J. W. Carter	A	Durham	Washington.
E. Cato	A	Fayetteville	Washington.
B. C. Chamness	E	Center Ridge	Conway.

NAME.	COURSE.	POST OFFICE.	COUNTY.
Alberta Chapman	G	Fayetteville	Washington.
W. H. Chapman	G	Fayetteville	Washington.
Melva Chapman	G	Fayetteville	Washington.
W. Clancy	E	Fayetteville	Washington.
F. L. Clark	G	West Fork	Washington.
Gertie Clay	G	Fayetteville	Washington.
J. L. Clendenin	G	Harrison	Boone.
A. E. Collier	E		Washington.
N. R. Collins	E	Huntington	Sebastian.
Birdie Conner	G	Fayetteville	Washington.
Ethel Conner	G	Fayetteville	Washington.
G. Cox	G	Fayetteville	Washington.
J. L. Crenshaw	G	Fayetteville	Washington.
S. J. Crossno	G	Etna	Franklin.
C. S. Curry	E	Clinton	Van Buren.
R. H. Dark	A	Hardy	Sharp.
J. R. Denty	E	Donaldson	Hot Spring.
J. M. Dixon	A	Sweet Home	Pulaski.
E. Dowell	A	Fayetteville	Washington.
Pearl Dowell	G	Fayetteville	Washington.
J. L. Drake	E	Hope	Hempstead.
Effie Driver	G	Fayetteville	Washington.
C. R. Dumas	A	Lisbon	Union.
Nannie Eads	G	Harris	Washington.
R. Easley	E	Donaldson	Hot Spring.
Bessie Eason	G	Fayetteville	Washington.
Eva Eason	G	Fayetteville	Washington.
J. Easterly	A	Fayetteville	Washington.
Gertrude Ellis	G	Fayetteville	Washington.
H. C. Evins	E	Fayetteville	Washington.
W. M. Evins	E	Fayetteville	Washington.
J. E. Felker	G	Rogers	Benton.
J. A. Floyd	E	Malvern	Hot Spring.
W. S. Foushee	E	Newport	Jackson.
W. E. George	G	Berryville	Carroll.
M. Gibbs	E	Malvern	Hot Spring.
W. L. Goodwin	G	El Dorado	Union.
O. Grimes	E	Blue Ridge	Texas.
Florence Hamilton	G	Fayetteville	Washington.
D. C. Hamilton	E	Carthage	Missouri.
T. E. Harrison	E	Fayetteville	Washington.
L. C. Hayes	G	Webbers Falls	Indian Ter.
W. W. Haydon	E	Springfield	Missouri.
Della Hedrick	G	Fayetteville	Washington.
S. C. Henderson	G	Fayetteville	Washington.
H. B. Hill	E	Fayetteville	Washington.
T. Holmes	G	Selma	Drew.

NAME.	COURSE.	POTT OFFICE.	COUNTY.
J. L. Hornor	G.....	Helena.....	Phillips.
E. Howell.....	G.....	Fayetteville	Washington.
H. Hunt.....	E.....	Fayetteville	Washington.
M. M. Hust	G.....	Bentonville	Benton.
W. Hynes.....	G.....	Van Buren.....	Crawford.
W. F. Jackson	G.....	Berryville	Carroll.
M. D. Johnson	G.....	Pine Bluff	Jefferson.
B. R. Johnson	A.....	Mountainway	Crawford.
A. L. Jones	A.....	Hartman	Johnson.
J. H. Jones	G.....	Hartman	Johnson.
Mattie Justice.....	G.....	Ponca Agency.....	Oklahoma T.
J. H. Keel	G.....	Newport	Jackson.
R. Kobel	E.....	Mulberry	Franklin.
E. V. Leverett	E.....	Fayetteville	Washington.
Annie Lewis	G.....	Springdale	Washington.
C. B. Lininger	G.....	Springdale	Washington.
Todd Lowry	G.....	Fayetteville	Washington.
C. H. Luther.....	E.....	Fayetteville	Washington.
C. Marcheselli	G.....	Fayetteville	Washington.
J. A. Martin	G.....	Fayetteville	Washington.
R. F. Mathews.....	E.....	Fayetteville	Washington.
J. A. McAndrews	G.....	Fayetteville	Washington.
R. H. McAndrews	G.....	Fayetteville	Washington.
B. T. McClure	G.....	Cameron	Indian Ter.
W. L. McPherson	G.....	Fayetteville	Washington.
E. Mook	E.....	Helena.....	Phillips.
Corrinne Moore	G.....	Rogers	Benton.
L. R. Moore	G.....	Fayetteville	Washington.
J. W. Morgan	E.....	Fayetteville	Washington.
Terry Morrow	G.....	Hubbard	Washington.
A. L. Mount	A.....	Fayetteville	Washington.
Lila Mount	G.....	Fayetteville	Washington.
M. Munn	A.....	Bodcaw	Nevada.
H. A. Newton	G.....	Clarksville	Johnson.
L. A. Nickels	G.....	Lawrence	Garland.
R. E. Nix	A.....	Fayetteville	Washington.
A. G. Olliver	E.....	Lee's Creek	Crawford. ✓
F. Parish	G.....	Newport	Jackson.
Bessie Parks	G.....	Boonsboro	Washington.
G. G. Pettigrew	E.....	Fayetteville	Washington.
Lillian Pettigrew	G.....	Fayetteville	Washington.
Mabel Phillips	G.....	Springdale	Washington.
J. M. Portnell	E.....	Fayetteville	Washington.
W. W. Powell	G.....	Fayetteville	Washington.
D. Quilling	G.....	Pendleton	Desa.
W. Rattenbury	G.....	Fayetteville	Washington.
F. H. Rice	E.....	Devalls Bluff	Prairie.

NAME.	COURSE.	POST OFFICE.	COUNTY.
R. C. Roane	G	Pine Bluff	Jefferson.
May Robinson	G	Fayetteville	Washington.
Pearl Robinson	G	Fayetteville	Washington.
J. W. Rogers	G	Luxenbourg	Mississippi.
T. H. Rogers	G	Dublin	Logan.
J. T. Rosser	G	Fayetteville	Washington.
Delia Samuelson	G	Fayetteville	Washington.
Olive Scott	G	Fayetteville	Washington.
F. W. Scherbel	G	Pierce City	Missouri.
J. G. Shannon	G	Fayetteville	Washington.
W. C. Shelton	A	Bloomer	Sebastian.
R. U. Shores	G	Webb City	Franklin.
T. F. Skelton	E	Fayetteville	Washington.
H. C. Smeltzer	G	Van Buren	Crawford.
Gertie Smith	G	Fayetteville	Washington.
W. H. Smith	G	Alma	Crawford.
P. T. Staggs	E	Hope	Hempstead.
S. K. Stone	G	Fayetteville	Washington.
R. A. Summers	G	Fayetteville	Washington.
Laura Taff	G	Fayetteville	Washington.
E. L. Talley	A	Fayetteville	Washington.
T. G. Taylor	E	Fayetteville	Washington.
S. R. Thach	E	Russellville	Pope.
D. Tharp	A	Fayetteville	Washington.
C. K. Thomas	E	Fayetteville	Washington.
Demmie Thomason	G	Fayetteville	Washington.
Ada Tilley	G	Fayetteville	Washington.
F. A. Tolle	G	Fayetteville	Washington.
P. G. Traylor	E	Ashdown	Little River.
P. M. Tygart	G	Prairie View	Logan.
Edith Usry	G	Fayetteville	Washington.
P. W. Usry	E	Fayetteville	Washington.
Geraldine Vandeeventer	G	Fayetteville	Washington.
A. Vincenheller	G	Little Rock	Pulaski.
L. A. Wade	A	Fayetteville	Washington.
Eran Walker	G	Fayetteville	Washington.
J. F. Walker	E	Beebe	White.
O. J. Walker	E	Searcy	White.
Annie Warren	G	Buckner	Columbia.
J. A. Wasson	G	Calamine	Sharp.
R. T. Westbrook	E	Beebe	White.
Pearl Wiley	G	Fayetteville	Washington.
Clara Williams	G	Elkins	Washington.
J. L. Williams	E	Cincinnati	Washington.
Italyne White	G	Fayetteville	Washington.
T. C. White	G	Fayetteville	Washington.
Cora Wood	G	Fayetteville	Washington.

NAME.	COURSE.	POST OFFICE,	COUNTY.
Nora Wood	G	Harris	Washington.
J. P. Wooten	G	Russellville	Pope.
W. O. Wozencraft	A	Holly Springs	Dallas.
T. R. Wright	G.	Glenville	Nevada.
W. L. Wright	E	Catcher	Crawford.

IRREGULAR.

NAME.	POST OFFICE.	COUNTY.
E. C. Ambrose	Fayetteville	Washington.
J. M. Andrews	Fayetteville	Washington.
J. Bagget	Springdale	Washington.
H. C. Baldwin	Mansfield	Sebastian.
F. P. Blair	Fayetteville	Washington.
Lillie Blackmer	Fayetteville	Washington.
D. Bourland	Little Rock	Pulaski.
J. A. Boyd	Fort Smith	Sebastian.
R. Boyd	Huntington	Sebastian.
Mollie Bradley	Burnville	Sebastian.
J. C. Braswell	Donaldson	Hot Spring.
F. E. Buchanan	Fayetteville	Washington.
W. H. Buchanan	Gumlog	Pope.
B. Busby	Coldwater	<i>Mississippi.</i>
Sallie Cooper	Fayetteville	Washington.
C. C. Curry	Fayetteville	Washington.
J. Clayton	Eureka Springs	Carroll.
C. G. Cole	Boonsboro	Washington.
Mary Cole	Boonsboro	Washington.
E. Coolidge	Helena	Phillips.
W. Coolidge	Helena	Phillips.
Lolena Degen		Sebastian.
W. M. Douglas	Helena	Phillips.
Anna Duncan	Fayetteville	Washington.
J. L. Dunn	Fayetteville	Washington.
J. M. Edwards	Graphic	Crawford.
C. Gillam	Helena	Phillips.
A. L. Grady	Helena	Phillips.
W. G. Hight	Fayetteville	Washington.
Ethel Hill	Fayetteville	Washington.
L. F. Horne	Fayetteville	Washington.
T. S. Hornor	Carmel	Chicot.
J. A. Hornor	Helena	Phillips.
J. Hynum		Sebastian.
F. D. James	Fayetteville	Washington.
L. A. Jones	Atkins	Pope.
Nora Jones	Fayetteville	Washington.
F. Johnston	Arrego	<i>California.</i>

NAME.	POST OFFICE.	COUNTY.
F. Kantz	Fayetteville	Washington.
Maude Kantz	Fayetteville	Washington.
E. L. Kistler	Van Buren	Crawford.
G. T. Ladd	Fayetteville	Washington.
Horton Lake	Fayetteville	Washington.
Lelia Lawson	Wesley	Madison.
G. G. Lewis	Des Arc	Prairie.
J. W. Luckenbill	Riverside	Woodruff.
Bertha Mann	Winslow	Washington.
Lulu Mason	Forrest City	St. Francis.
Mary Mason	Forrest City	St. Francis.
M. McAbee	Charleston	Franklin.
E. C. McBee	McBee Landing	Marion.
J. L. McNeill	Fayetteville	Washington.
Grace McPherson	Fayetteville	Washington.
W. R. Mitchell	Eulogy	Texas.
Dora Monroe	Fayetteville	Washington.
G. C. Moore	Fayetteville	Washington.
Mabel Mough	Fayetteville	Washington.
A. Nash	Fayetteville	Washington.
Frankie Nash	Fayetteville	Washington.
Mable Nichols	Joplin	Missouri.
W. S. Norman	Fayetteville	Washington.
Cora Oliver	Fayetteville	Washington.
A. D. Orcutt	Oakland	Marion.
Bessie Payne	Fayetteville	Washington.
G. D. Pettigrew	Fayetteville	Washington.
W. F. Purdy	Fayetteville	Washington.
T. Quarles	Fayetteville	Washington.
H. Ragland	Fayetteville	Washington.
Fannie Robinson	Fayetteville	Washington.
I. E. Sharp	Cave City	Sharp.
E. B. Simonds	Fayetteville	Washington.
W. L. Slaughter	Webbers Falls	Indian Ter.
Walter H. Smith	Siloam Springs	Fult ^{on} .
W. H. Smith	Fayetteville	Washington.
F. D. Spencer	Fayetteville	Washington.
B. Stone	Fayetteville	Washington.
W. R. Taylor	Van Buren	Crawford.
R. Usry	Fayetteville	Washington.
Eleanor Vaulx	Fayetteville	Washington.
C. G. West	Berryville	Carroll.
Annie Whitlow	Fayetteville	Washington.
J. D. Whithorne	Carroll	Chicot.
R. Williams	Fayetteville	Washington.
Mattie Wood	Fayetteville	Washington.
R. A. Young	Oakland	Marion.

SUMMARY BY CLASSES.

Second Year	145
First Year	173
Irregular	85
Total	403

SUMMARY BY COURSES.

Agricultural	30
Engineering	83
General	205
Irregular	85
Total	403

GENERAL SUMMARY.

Collegiate Students.....	210
Preparatory Students	403
Medical Students (<i>Little Rock</i>)..	72
Law Students (<i>Little Rock</i>) ..	36
Branch Normal Students - <i>Pine Bluff</i>	241
Total	962

SCHOOL OF MEDICINE.

LITTLE ROCK, ARKANSAS.

PRELIMINARY FALL COURSE.

EDWIN BENTLEY, M. D., Surgical Pathology.
E. E. MOSS, A. M., L.L. B , Legal Medicine.
L. P. GIBSON, Minor Surgery and Bandaging.
C. WATKINS, M. D., E. R. DIBRELL, M. D., Physical Diagnosis.
LOUIS R. STARK, M. D., Diseases of Children.
S. H. KEMPNER, M. D., Urinary Analysis, Microscopy and Bacteriology.
J. J. MCALMONT, M. D., Hygiene.
FRANK VINSONHALER, M. D., Diseases of Throat.
W. H. MILLER, M. D., Emergencies.
F. H. CLARKE, Local Forecast Official U.S. Weather Bureau, Meteorology

NOTE.—The names of the entire Medical Faculty are given on page 8.

THE REGULAR WINTER COURSE of lectures will begin on Thursday, November 1, 1894, and continue twenty-four weeks.

Lectures will be delivered daily during the six days of each week.

The matriculation book will be opened on and after September 1 to students desiring to matriculate early and secure choice of seats.

THE PRELIMINARY FALL COURSE, which is given gratis to all students, will begin on Wednesday, October 3,

1894, and continue to Thursday, November 1, 1894, when the regular winter session opens.

In making this annual announcement the Faculty feel great satisfaction in referring to the continued success and prosperity of the Medical School. The cordial indorsement of the Arkansas State Medical Society and the generous influence of the medical profession throughout the State are cordially appreciated and accepted by the Faculty, as an encouragement to them to continue the arduous labors they have so long and so zealously maintained.

AMERICAN MEDICAL COLLEGE ASSOCIATION.

In accordance with the requirements of this Association, in our announcement for 1891, we gave notice that after July 1, 1892, all students who had not taken a full course of lectures prior to that date, would be required to attend *three courses of lectures, of six months each, in three separate years.* Many States refuse to grant license to graduates of Medical Schools requiring but two courses of lectures.

The Faculty design to keep pace with the progress of higher medical education, and to make a diploma from the Medical School of Arkansas Industrial University as honorable and valuable to her alumni as the diploma of any other medical college.

THE REGULAR THREE YEARS' COURSE has been graded as follows:

First Year will include Anatomy, Physiology, Pathology, Chemistry, Materia Medica and Therapeutics, Microscopy, Hygiene and Public Health, Dissections and attendance upon the Clinics.

Second Year: Anatomy, Physiolgy, Pathology, Materia Medica and Therapeutics, Practice of Medicine, Surgery, Midwifery, Diseases of Women and Children, Ophthal-

mology and Otology, Medical Chemistry, Toxicology, Medical Jurisprudence, and attendance upon the Clinics and Hospital.

Third Year: Practice of Medicine, Surgery, Midwifery, Diseases of Women and Children, Laryngology and Rhinology, Diseases of the Nervous System, Ophthalmology and Otology, Medical Jurisprudence, Dissections and attendance on the Clinics and Hospital.

LOCATION.

The city of Little Rock is very happily situated, being central in the State and a goodly distance from any other large city. Railroads enter from every direction, making it an easily accessible point.

It has a population of upwards of 40,000 people, and has always been classed as one of the healthiest cities west of the Mississippi River. Few cities can boast of better public schools, colleges, and universities than Little Rock. All the eleemosynary institutions of the State are located here. These are the Blind, Deaf-Mute, and Insane Asylums.

COLLEGE BUILDING.

The new structure is an imposing edifice, three stories in height, constructed of brick, and admirably arranged for the convenience of both students and instructors.

It has a large lecture hall, fine amphitheater with chairs, a library, a reading room, a museum, and several private dissecting rooms, all well lighted and ventilated. In fact, it is designed to be a model medical college building. It is situated on Second and Sherman streets.

HOSPITALS.

The Little Rock Infirmary, a new institution designed solely for the treatment of acute diseases, has a capacity of fifty beds. This hospital, splendidly equipped and furnished with modern conveniences and improvements, is in the very

best sanitary condition, and under the supervision and management of trained nurses—Sisters of Charity.

The Pulaski County Hospital has just been erected at a cost of some \$30,000. It is a handsome brick structure, well arranged, complete in all its equipments, and has a capacity of 200 beds. It is under the general direction of the Judge of Pulaski County, and is also benevolent in character. In this institution the chronic diseases and injuries of long standing will generally predominate.

Sufferers from railway accidents, marine patients, and the sick and injured from the city, county, and State, find in these hospitals shelter, food, raiment, and that Christian attention so cheering and comforting in sickness and distress.

Their inmates embrace all classes and conditions of unfortunates—white, colored, male, female, adults, and children—and with them are found almost every character and form of sickness, except contagious diseases, which are otherwise provided for.

THE ISAAC FOLSOM CLINIC.

Every student of this department is required to attend the Isaac Folsom Clinic, and each candidate for graduation must pass a thorough examination on clinical instruction herein received, and this fact will be specially mentioned on the face of his diploma.

The instruction of this Clinic is eminently practical in every particular, and is attended by a very large number of outdoor patients from the city and surrounding country. It embraces a wide range of troubles of various forms, character and condition, in fact the larger portion of the ills that humanity has to contend with, both medical and surgical. Hence the advantages of this daily Clinic, for those who desire ocular demonstrations, can hardly be estimated.

METHODS OF TEACHING.

Instruction in this department will be given by didactic and clinical lectures, by practical work in the dissecting room, and in the chemical and physiological laboratories, and by daily quizzes upon the subject of preceding lectures.

When the subject will admit of it, each branch will be so illustrated by means of diagrams, charts, models, and instruments, as to address the understanding of the student through the medium of sight as well as hearing.

THE EXPENSES OF LIVING, ETC.

The expenses of living in the city of Little Rock will, of course, vary according to the views and habits of students. Good board, at the present time, including lodging, fuel, and lights, may be had, at a convenient distance from the College, at from \$4 to \$6 per week, and from \$13 to \$18 per month.

The list of parties desiring to board medical students will be found at the College building. Persons desiring further information are requested to address the Secretary of the Faculty.

REQUIREMENTS FOR ADMISSION.

Applicants must be eighteen years of age and must present a certificate of good moral character and a diploma of graduation from a good literary and scientific college or high school, or a first-class grade teacher's certificate. Lacking this, they must pass a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy. This is in conformity with Article III., American Medical College Association.

TERMS.

The fee for a full course of lectures will be: General tickets, \$50; Matriculation ticket (paid but once), \$5; Demonstrator's ticket for each course, \$5; Hospital ticket, each course, \$3; graduation fee, \$25.

No variation is made, under any circumstances, from the established fees of the College, they having been placed originally at the very lowest figure commensurate with the interests of both student and College.

For more specific information and catalogue apply to

E. R. DIBRELL, M. D.,

Secretary of Faculty,

Little Rock, Ark.

LAW SCHOOL

LITTLE ROCK, ARKANSAS.

FACULTY.

FRANK M. GOAR, Dean, Professor of Common and Statute Law.
THOMAS B. MARTIN, Professor of Criminal Law and Procedure.
GEORGE B. ROSE, Professor of Evidence, Pleading, and Practice.
WILBUR F. HILL, Professor of Equity Jurisprudence.
MORRIS M. COHN, Professor of Law of Corporations.

The Law course embraces two years divided into four terms. Fall term will commence October 2, 1894, and close January 31, 1895. Spring term will commence February 1, 1895, and close June 1, 1895.

COURSE OF INSTRUCTION.

The design of this school is to afford such training in the fundamental principles of the law, as will constitute the best preparation for the practice of the profession anywhere in the United States, and especially in the State of Arkansas. With this view the course of study, which is intended to occupy the student two years, will comprise the following subjects:

JUNIOR YEAR.

First Term—*Elementary Law*, Robinson; *Contracts*, Bishop, Lawson: *Agency*, Mecham, with Lectures; *Partnership*, Parsons, with Lectures; *Commercial Paper*, Benjamin's Chalmers; *Domestic Relations*, Schouler, with Lectures.

Second Term—*Criminal Law*, Harris; *Evidence*, Greenleaf, Vol. I.; *Code Pleadings*, Bliss; *Judgments*, Freeman, with Lectures; leading cases; moot courts.

SENIOR YEAR.

First Term—*Law of Private Corporations*, Cook; *Municipal Corporations*, Lectures; *Bailments*, Schouler; *Insurance*, Lectures; *Torts*, Cooley; moot courts.

Second Term—*Real Property*, Tiedeman; *Equity Jurisprudence*, Bispham; *Equity Pleading*, Langdell, with Lectures; *Constitutional Limitations*, Cooley; *Conflict of Laws*, Lectures; *Fraud and Fraudulent Conveyances*, Lectures; leading cases; moot courts.

For the fall term students will be matriculated at any time upon satisfactory examination. Books can be purchased here. We do not think it prudent for students to devote less than two years to the foregoing course. "He who is not a good lawyer when he comes to the bar, will seldom be one afterwards," is a saying full of truth.

Thought as well as reading is necessary to the proper understanding of our system of jurisprudence. No man can hope to be a great lawyer by the cramming process. While students are advised not to attempt to complete the full course in a single year, yet if one chooses to make the effort, and has acquired sufficient knowledge of the law from previous reading, he will be admitted to the graduating examination, and if he attains the standard required, he is entitled to his degree. Every candidate for the honor degrees will be required to attend the full term of two years.

EXPENSES.

Tuition, \$50 per session, payable \$10 in advance, and \$5 per month thereafter during the session. Books will cost from \$20 to \$30 per year. Board from \$15 to \$20 per

month; by the club system, where the students do their own work, from \$6 to \$10 per month.

Cheap lodgings may be obtained by consulting the Dean of the Faculty before the opening of the session, and the cost of living need not be greater in Little Rock than elsewhere in the State.

Many reasons may be given why young men contemplating the practice of law in Arkansas should patronize their own law school. First, in the application of the elementary principles of law in the practice, the reference books must be in the main to the laws of the State where the law school is located, as found in the Constitution, Statutes, and Supreme Court Reports of the State. Second, emulation and class organization will do much for the law student.

The old way of serving a term in a private law office of a senior at the bar is fast yielding to more modern and better methods.

"The time has gone by when an eminent lawyer in full practice can take a class of students into his office and become their teacher. Once that was practicable, but now it is not. The consequence is that law schools are now a necessity."—*Chief Justice Waite.*

Again, the associations and friendships formed with representative young men throughout the State are invaluable in many respects to the practitioner.

EXAMINATIONS.

Written examinations are held each term in the presence of a member of the Faculty upon questions handed the student at the time, and on the merit of their papers students will be graded carefully. Diplomas and degrees will be awarded by the Board of Trustees upon the recommendation of the Faculty.

Those of the Senior Class who attain a sufficiently high grade on their examinations will be entitled to the degree of Bachelor of Laws.

Every candidate for this degree is required to file with the Faculty an essay or thesis upon some topic connected with his studies.

MOOT COURTS.

Moot Courts are held from time to time during the term, in which students discuss cases previously assigned them for that purpose by the Professor. These courts are presided over by the Professor, who, at the conclusion, reviews the arguments and gives his decision upon the points involved. The effort here is to make not merely theoretical but practical lawyers; not to teach principles merely, but how to apply them. To this end the Moot Court is made the forum for the discussion of such practical questions as most frequently arise in a professional career at the bar; and the attention of the students is directed not less to the application of the points discussed in actual cases, than to the elucidation of the legal questions. An opportunity is afforded all the Senior students to participate in this court, and to all Junior students of the second term.

Moot Courts are conducted on the theory that certain facts are true, and that the only subject open to discussion is the rule of law to be applied to them. The student, having obtained from the Faculty a statement of facts, is required to prepare pleadings, and draw up a brief in which the rules of law are stated under appropriate divisions and sustained by authorities which he proposes to rely upon in his oral argument.

The pleadings are submitted to the Professor. He calls the student's attention to such errors as may exist, and gives such other practical information as he may deem advisable.

PROFESSIONAL ETHICS.

While endeavoring to impart legal knowledge, the fact will not be lost sight of that a high moral standing is a most important requisite to a successful and honorable career, and

no pains will be spared in impressing this fact upon students and inculcating a high tone of professional ethics and action.

The transfer of the Law Department of the University from Fayetteville to Little Rock was advised because Little Rock is centrally located, easy of access, and is the seat of government, with a full complement of courts, State and Federal, with an able bar; and last but by no means least, the Supreme Court Library is as large, if not the largest law library west of the Mississippi River. We have arranged for regular students to have access to this magnificent library of the Supreme Court.

We have no doubt the transfer will be a very decided benefit to the students, and the cost of living to young men who are in real earnest about learning the law, need not be greater here than elsewhere.

For further information address

F. M. GOAR, *Dean*,
Little Rock, Ark.

BRANCH NORMAL COLLEGE.

FACULTY.

NORMAL DEPARTMENT:

J. C. CORBIN, A. M., Principal.

JAS. C. SMITH, First Assistant.

ANNIE C. PATILLO, Second Assistant.

THOMAS G. CHILDRESS, Third Assistant.

MECHANICAL DEPARTMENT:

C. V. KERR, Superintendent of the Mechanical Department.

W. S. HARRIS, Assistant Superintendent of the Mechanical Department.

A. E. SMITH, Machine and Blacksmith Shops.

LORENZO ELLIS, Engineer.

GENERAL STATEMENT.

The Branch Normal College is a Department of the Arkansas Industrial University, established pursuant to an act of the General Assembly of the State of Arkansas, approved April 25, 1873, and has been in operation since September 27, 1875. Its primary object is the training of teachers for efficient service in the colored public schools of the State—the law referred to having been enacted with special reference to the "convenience of the poorer classes." For the purpose of carrying out the intent of the law, by enabling those who wish to avail themselves of its advantages, there is no charge for tuition for appointees; the only requirements for admission being suitable age and qualification, appointment from one of the County Judges, and the payment of the entrance fee of \$5.

LOCATION, ETC.

The school property consists of a beautiful tract of 20 acres of ground, in the suburbs of Pine Bluff, Jefferson County,

Arkansas, and a few rods from the junction of the Missouri Pacific, and St. Louis Southwestern railroads. The school building, completed in 1881, and occupied January 30, 1882, is one of the handsomest educational edifices in the State, as well as one of the best, being warm and comfortable, well lighted and ventilated. It contains one large assembly room, four recitation rooms, and cloak rooms for males and females. The building is of brick, with slate roof and trimmings of Alabama granite, and cost, with improvements and furniture, \$12,000. The furniture and other equipments are of the best modern style.

The Dormitory for female students is under the supervision of the Principal and his wife. It is a handsome brick structure sufficient for the accommodation of thirty or forty students. Board bills are payable monthly in advance, and no deduction is made for loss of time less than one week. Girls staying in the Dormitory are required to keep their own rooms and the halls clean, and to assist in turn, in the dining room and kitchen. They are expected to furnish their own bed linen, and are held responsible for all damage to furniture in their rooms. They are not to visit each other's rooms, except by invitation from the occupant, and two are expected to occupy one room. They are not allowed to change rooms, nor to visit in town except by permission. The charge for board, fuel, and light thus far has been \$8 per month, in advance, and, if possible, that price will be continued.

The shop building was completed in February, 1892. It is of brick and covers a plat of ground 70x70, comprising a woodshop 35x35, a foundry 25x25, a blacksmith shop 25x25 and a machine shop 35x25. A boiler room 20x25 and a court 35x20 occupy the remaining space. The shops will accommodate sixty students at one time. During the past year the entire attendance was 241.

NORMAL DEPARTMENT.

The design of this Department is to train teachers for the common schools of the State.

Applicants must pass a satisfactory examination in the common English branches in order to enter this Department.

In addition to a thorough knowledge of the branches to be taught, the work comprehends:

1. Training in methods of imparting instruction in the branches to be taught.
2. Methods of leading pupils to think and investigate for themselves.
3. How to grade and organize the various kinds of schools.
4. Government or discipline of schools.
5. Duties of teachers as governed by School Law.

By the laws of the State, the appointment of students to the Branch College, in numbers from each county in the State, is the same as to the University at Fayetteville. The power is vested in the County Courts; but any vacancies occurring during the vacations of the court, shall be filled by the Judge of the County Court.

All the students thus appointed are entitled to four years' free tuition, upon the payment of \$5 matriculation fee, *in advance, at the time of entering the school.*

All Beneficiaries and Normal students should be present at the opening of the Autumn Term; and the unnecessary delay, either of old students returning or of new ones reporting, *will lead to the forfeiture of their appointments.* The strictest attention to study, and most exact punctuality in attendance on recitations and all other duties, are made the conditions of every student's continuance at the institution. Appointments are *not transferable.*

The course of study in this Department is intended to be fully equivalent to the usual college course up to and including the Sophomore year. In the subsequent course of two years the usual studies of the Junior and Senior years are included. Eleven classes have graduated, and, as will

be seen in the list of alumni, are now occupying prominent positions. The institution has a good library of over 2,000 volumes, a reading-room well supplied with current literature and a valuable supply of physical apparatus. There is also a good collection of typical minerals.

DEPARTMENT OF MECHANIC ARTS.

The shops of the Branch Normal College are built and equipped for the purpose of giving the colored boys of our State a chance to make themselves useful by learning to be carpenters, pattern makers, moulders, blacksmiths, machinists, and engineers or firemen.

While learning the basis of his trade, the student acquires a good knowledge of Language, History, and Drawing. Throughout the course of four years in the shops, the student spends an average of ten hours a week in actual labor; and, while the amount of time spent in the shops seems small, experience has shown that students under constant instruction from skilled teachers and passed from one exercise to another as soon as the work is well done, make very rapid progress.

We are therefore prepared to offer:

(a.) A course in general shop work extending over three years, followed by a fourth year's work in one of the shops selected by the student. The design is to enable a young man to choose his trade intelligently and to acquire a sound basis for it.

(b.) A three year's course in general shop work followed by a fourth year's work in the management of boilers, engines, and heating systems. This course is intended to train young men for the practical work of firemen and engineers.

(c.) A course in general shop work extending over three years, together with class-room work in the theory and practice of teaching, followed by a fourth year's work in handling classes in the shops and in laying out series of practical exercises.

These shops have a very superior equipment as will be seen from the annexed statement:

Wood Shop.—The equipment already secured includes 12 benches with complete sets of carpenters' tools, a double-circular sawing machine, a scroll saw, a buzz planer, and six wood turning lathes.

Foundry.—A Collian cupola capable of melting $1\frac{1}{2}$ tons of iron per hour is in position, and the remainder of the outfit will be added shortly. It will include ladles, moulders' tools, flasks, core oven, rumble, etc.

Forge Shops.—Twelve Buffalo forges are in position, the blast being supplied by a blower, and the smoke drawn off by a large exhaust fan. Besides the usual outfit of anvils, hammers, tongs, etc., there is a Buffalo punch shear and bar cutter capable of cutting off 1 inch bar iron $\frac{1}{2} \times 3$ inch strap iron, or of punching a $\frac{3}{8}$ inch hole in $\frac{3}{8}$ inch iron.

Machine Shop.—Among the tools already ordered and partly in place, are a 15 inch crank shaper, $24 \times 24 \times 6$ planer, 20 inch drill press, 15 inch \times 5 feet turret lathe, 18x6 inch engine lathe, 14 inch \times 6 feet engine lathe, 12 inch \times 5 feet hand lathe, universal milling machine, cutter and reamer grinder, twist drill grinder, grindstone, etc.

Heating and Power Plant—Two vertical engines of 12-horse power each are in position, also two 30-horse power tubular boilers. The piping for feed water is so arranged that the water passes from either pump or injector through a feed water heater to the boiler; and the exhaust piping is so arranged that the exhaust steam from the engines can be used either to heat the feed water or to heat the shops.

Water Supply.—In the court of the shop building, a 4 inch Cook tubular well has been put down which will furnish 1,000 gallons of water per hour. A Cook pump delivers the water to a tank 30 feet above ground, holding 8,000 gallons.

Materials and tools will be furnished to students taking shop work. When necessary, however, each student will be expected to provide himself with a blouse and overalls to work in.

EXPENSES.

The expenses of a student at the Branch Normal College need not exceed the amount herein stated:

Board in private families, including fuel, light, and washing, can be had from \$8 to \$10 per month. A Normal student pays \$5 entrance fee, which entitles him to free tuition for four years. Books may be purchased at Pine Bluff at the purchaser's usual retail price. Quite a number of students have paid a part of their board by labor in private families. Nonbeneficiary students will be charged the sum of one dollar per month for tuition, payable in advance.

In addition to the regular class exercises laid down in the curriculum of study, there are regular lessons in vocal music, which are open to all the students. The general exercises also include a review of the Sabbath-school lesson, review of the events of the week, Calisthenics, Music, and Drawing. Music upon instruments, the Organ, Piano, Flute, Guitar, etc., is extra, but very reasonable in price. There are two Literary Societies, the Junior and Senior, which hold weekly meetings and afford excellent opportunities for practice in oratory, debate, and composition. It is required that every student shall become a member and attend the meetings of one of the societies.

The length of the vacation allows the advanced students an opportunity to engage in teaching, and a large proportion of their number have done so during the last five years. In nearly all cases they have given satisfaction and conduct their schools with a fair degree of success.

All further information and blanks for appointments may be obtained by application to the Principal,

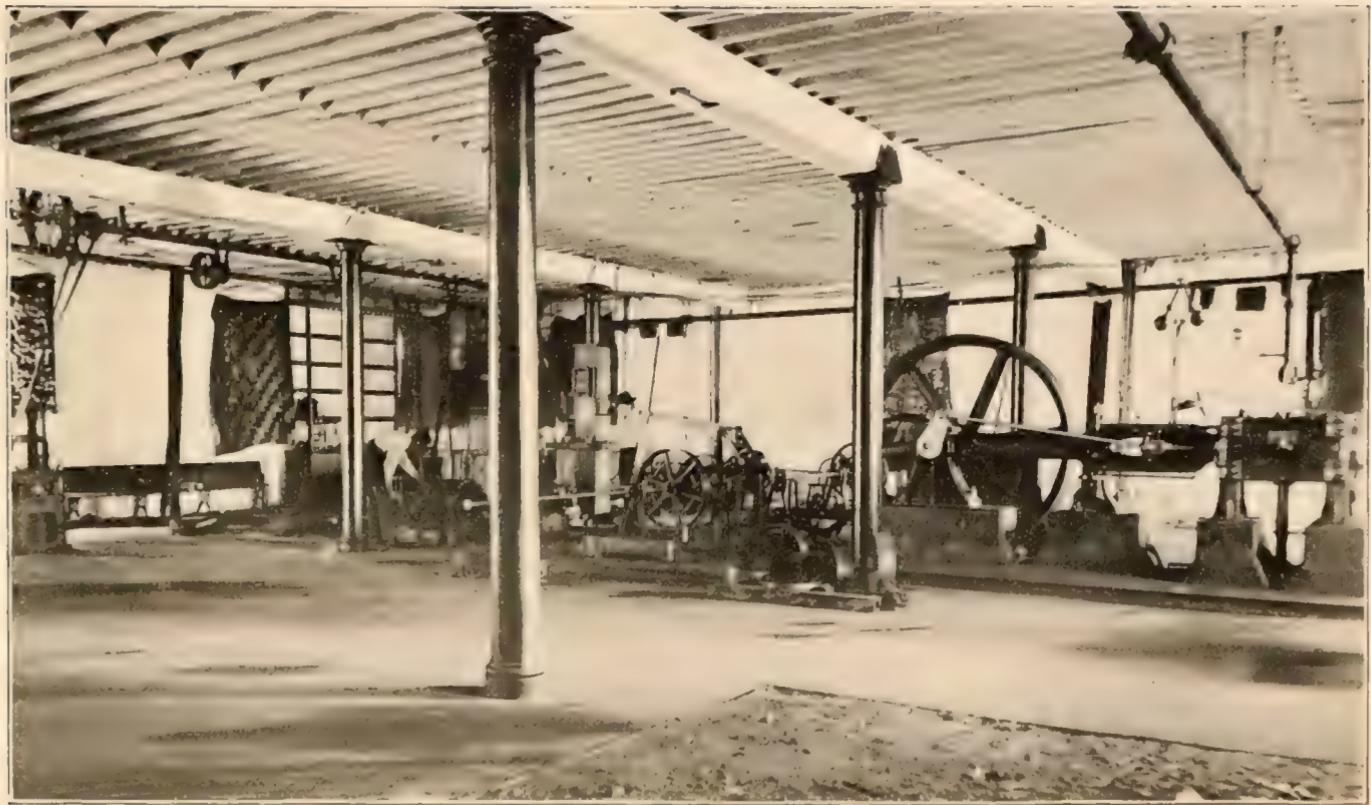
J. C. CORBIN, A. M.

Pine Bluff, Ark.

BEQUESTS TO THE UNIVERSITY.

Forms of bequests are given below in the hope that the friends of education will aid the Trustees and Faculty in their earnest efforts to enlarge and perpetuate the work of the University.

1. I devise and bequeath to the Trustees of the Arkansas Industrial University at Fayetteville dollars for its permanent endowment.
2. I devise and bequeath unto the Trustees of the Arkansas Industrial University at Fayetteville \$30,000 for the endowment of a professorship of in said University.
3. I devise and bequeath to the Trustees of the Arkansas Industrial University at Fayetteville \$3,000 (or \$4,000, or \$5,000) for the endowment of a fellowship in the department of in said University.
4. I devise and bequeath to the Trustees of the Arkansas Industrial University at Fayetteville \$1,500 for the endowment of a scholarship in said University.
5. I devise and bequeath to the Trustees of the Arkansas Industrial University at Fayetteville dollars to increase the Library of said University.



ENGINEERING LABORATORY.

APPENDIX.

SPECIMEN EXAMINATIONS FOR ADMISSION TO FRESHMAN CLASS.

Examinations will be of the same general character as the following:

I. MEIKLEJOHN'S ENGLISH GRAMMAR. 2 hours.

1. Tell all the different ways of distinguishing gender; illustrate each by example.
2. Name and define all the different kinds of pronouns.
3. Give distinction between strong (or irregular) and weak (or regular) verbs, and principal parts of one strong verb and of one weak verb. Give a complete synopsis of the verb *know* in the passive voice, using the third person singular.
4. Analyze carefully the following sentence, giving special attention to the relation of the subordinate clause to the principal clause: "The love of reading, *which Gibbon declared* he would not exchange for all the treasures of India, was, with Macaulay, a *main* element of happiness in one of the happiest lives *that it has ever fallen to the lot of the biographer to record.*"
5. Parse the words italicized in the above sentence. Construe the words italicized in the following sentence: (1) They offered *Cæsar* the crown three *times*.
6. Name the prefixes and suffixes in the following words, and tell what force they have: (1) Steward, (2) gainsay, (3) golden, (4) weakness, (5) forbid, (6) stagger, (7) misdeed, (8) trickster, (9) sparkle, (10) withstand.
7. Name following meters and mark accented syllables:
 - (a) Brightest and best of the sons of the morning.
 - (b) True wit is nature to advantage dressed.
 - (c) In his chamber, weak and dying.

II. ENGLISH COMPOSITION. 1 hour.

Write a composition of 200 to 300 words upon The Quarrel Between Brutus and Cassius, in Shakespeare's Julius Cæsar.

III. ARITHMETIC. 1 hour.

First, second, third, fourth, and fifth questions same as in examination for admission to the Preparatory School, page 168.

6. See Wentworth's Arithmetic, page 236, example 9.

7. See Wentworth's Arithmetic, page 261, example 5.

IV. ALGEBRA. 1½ hours.

1. Simplify the following expressions by removing the parentheses and collecting like terms:

$$(a) - [b + \langle a - (d + a) \rangle]$$

$$(b) - [5x - (11y - 3x)] - [5y - (3x - 6y)]$$

2. Resolve the following into factors:

$$x^3 + y^3, x^4 - y^4, x^2 - 19x + 90, 240 + x - x^2, \text{ and } x^3 - 8.$$

3. Find the greatest common divisor of

$$8x^3 - 2x^2 - 53x - 39 \text{ and } 4x^3 - 3x^2 - 24x - 9.$$

4. Given: $2x + 3y + 4z = 20$.

$$3x + 4y + 5z = 26.$$

$$3x + 5y + 6z = 31.$$

To find the value of x, y, z.

5. Find the cube root of

$$1 - 9x + 39x^2 - 99x^3 + 156x^4 - 144x^5 + 64x^6.$$

6. Find the value of

$$(\sqrt[3]{7} + 5\sqrt[3]{3})(2\sqrt[3]{7} - 5\sqrt[3]{3});$$

and the value of x in

$$\sqrt[3]{4} - \sqrt[3]{x} - 3x = 6, \text{ and}$$

$$x^2 + 6x = 27.$$

V. PLANE GEOMETRY. 1½ hours.

Demonstrate the following propositions:

1. The three perpendiculars from the middle points of the sides of a triangle meet in the same point.

2. An inscribed angle is measured by one-half of its intercepted arc.

3. Upon a given straight line, describe a segment of a circle which shall contain a given angle.

4. If two triangles have their sides respectively parallel, or respectively perpendicular, they are similar.

5. If from a point without a circle a secant and a tangent are drawn, the tangent is a mean proportional between the whole secant and the extreme segment.

VI. U. S. HISTORY. $1\frac{1}{2}$ hours.

Tell all about the following:

1. DeSoto.
2. The Battle of Guilford Courthouse.
3. The Missouri Compromise.
4. The Doctrine of State's Rights.

VII. GENERAL HISTORY. 1 hour.

Tell all about the following:

1. Cyrus the Great.
2. The Battle of Salamis.
3. Hannibal.
4. Alfred the Great.
5. Cardinal Richelieu.

VIII. GEOGRAPHY. $1\frac{1}{2}$ hours.

1. Name in their order twenty rivers flowing into the Atlantic Ocean or its arms, between the Bay of Fundy and the Florida Keys.
2. Name the principal cities of Louisiana, Texas, Ohio, Illinois, Michigan, and Minnesota (one city each), and describe their situation.
3. Describe the climate and productions of Mexico.
- 4 and 5. What and where are the following? Give exact locations: Aconcagua, Aral, Baikal, Bothnia, Ceylon, Delhi, Farewell, Formosa, Hecla, Munich, Ponchartrain, Sunda, Verde, Volga, Yukon.

IX. PHYSIOLOGY. 1 hour.

1. Describe the structure of the femur.
2. How does the blood-plasma differ from blood serum?
3. Describe the formation of a blood clot.
4. Define the terms "afferent," "efferent," "voluntary," "involuntary," "reflex."
5. Name and give the most important characteristics of eight of the principal tissues of the body.

X. LATIN. 2 hours.

Translate Cæsar's Gallic War, Book I., chapter 22, from *prima luce* to *abstinebat*.

1. Give principal parts of *abasset*, *accurrit*, *teneri*, *cognovisse*, *instruit*.
2. Explain cases of *luce*, *equo*, *quem*, *ei tempore*.
3. Explain uses of modes in *teneretur*, *teneri*, *fieret*.
4. Compare *prima*, *summus*, *proximum*, *longius*.
5. Give the whole indicative mode of *volverit*, and the whole subjunctive of *abasset*, and translate the first person of each tense.

6. Decline *passibus, eum, quem, insignibus, uno.*

7. Parse *hostium, occupari.*

Translate Book II., chapter 32, from *ad hoc* to *dixerunt*.

Translate into Latin:

1. He will order the lieutenant to send soldiers as a relief to our men.
2. We are so many in number that we can easily keep their army from the march.
3. If they make peace with us, we shall go into that part where they wish us to be.
4. We cannot see the mountain, although it is of great height.
5. We shall march through Geneva at sunset, because we are not more than 20 miles distant.

Besides this, an oral examination is required.

SPECIMEN EXAMINATION FOR ADMISSION TO FIRST YEAR IN THE PREPARATORY SCHOOL.

Examinations will be of the same general character as the following:

I. ARITHMETIC THROUGH PERCENTAGE. 2 hours.

1. A boy runs 3.876 miles, dropping a piece of paper every 4.75 feet. How many pieces does he drop?

Analysis: In one mile there are 5280 feet, and in 3.876 miles there are 3.876 times 5280 feet, or 20,465.28 feet. If in 4.75 feet he drops one piece, in 20,465.28 feet he will drop as many pieces as 4.75 is contained in 20,465.28 feet, which is 4308 papers.

2. Reduce $\frac{3}{8} \frac{1}{11}$ to its lowest terms.

3. A owns three-fifths of a ship worth \$25,748. B one-fourth of the remainder, C one-eighth of the amount belonging to A and B, and D owns what is still left. What is the value of D's share? Give full analysis.

4. Find cost of papering a room 32 feet long, 22 feet wide, 13 feet high, with paper 18 inches wide, 8 yards in a roll, at \$1.25 a roll, if 50 square yards be allowed for doors, windows, and base boards.

5. The longitude of New York is 74° west, that of Paris is $2^{\circ} 20'$ east. When it is fifteen minutes past 10 a. m. in New York, what is the time in Paris?

II. GRAMMAR. 2 hours.

1. Name and define all the parts of speech.
2. Name and define all the different kinds of pronouns, all the different kinds of participles, and give an example of each kind.
3. Give three rules for forming the possessive case of nouns, with example of each. What is the possessive case of *conscience*?
4. Analyze the following sentences: 1. The boy that you saw is my younger brother. 2. One soldier was present when the roll was called.

III. GEOGRAPHY. 1 hour.

1. Name in their order twenty rivers flowing into the Atlantic Ocean or its arms, between the Bay of Fundy and the Florida Keys.
2. Name the principal cities of Louisiana, Texas, Ohio, Illinois, Michigan, and Minnesota (one city each), and describe their situation.
3. Describe the climate and productions of Mexico.
- 4 and 5. What and where are the following? Give exact locations: Aconcagua, Aral, Baikal, Bothnia, Ceylon, Delhi, Farewell, Formosa, Hecla, Munich, Ponchartrain, Sunda, Verde, Volga, Yukon.

ERRATUM.

On page 31, line 11, in place of C. J. Eld, read James E. Gibson, honor student in Engineering.



LABORATORY BUILDING.



FOUNDRY AND BOILER ROOM.

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